VERITAS ET UTILITAS

WINTER 1956-57

THE BUSINESS QUARTERLY

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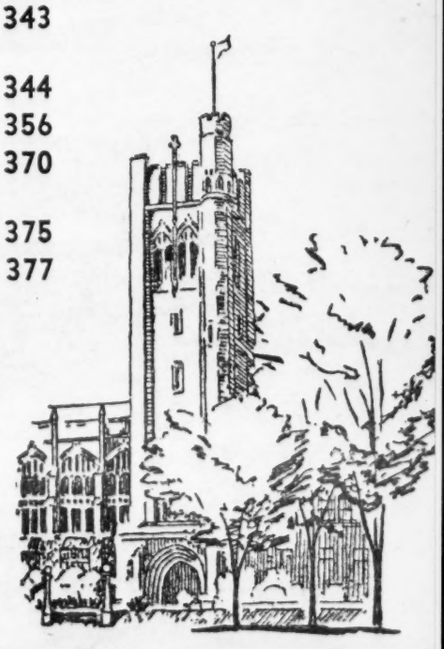

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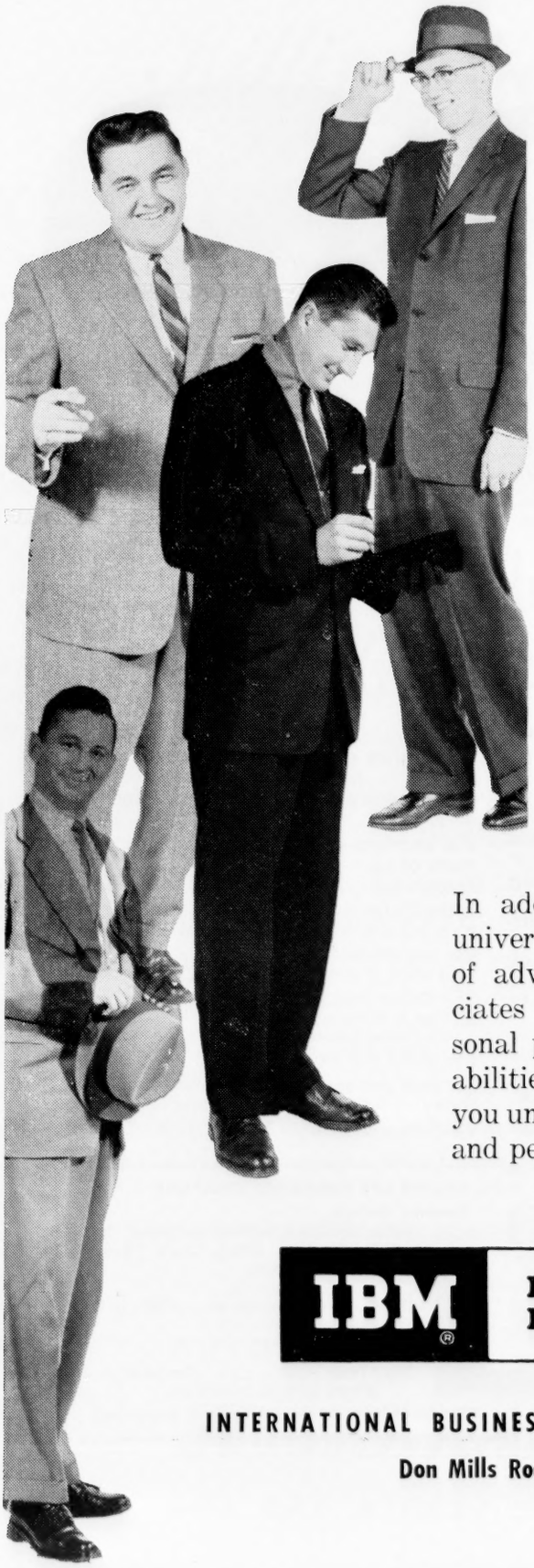

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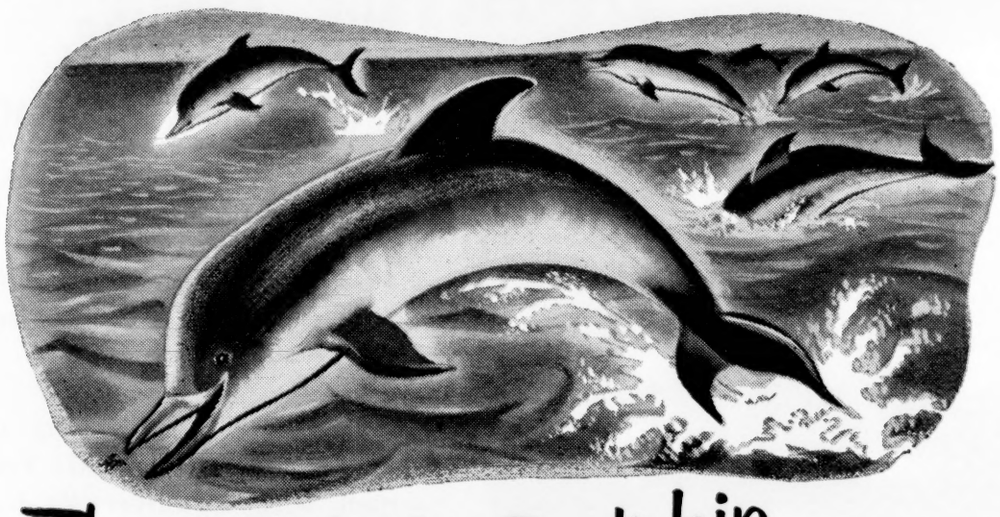

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Editorial . . .

Once upon a time, no statesman would take action without consulting his oracle and insuring that the omens were propitious. In the 100 Years War, General Wallenstein had an astrologer on his staff and never attacked without his permission. Even in our own time Prime Minister U. Nu of Burma consulted his astronomer before taking decisions of State. Nowadays its still the same, yet governments and businessmen no longer disect the entrails of ducks but instead run to economists for predictions to justify their future plans.

In our view at the University of Western Ontario an even better method of finding what lies ahead is to ask Canada's leading businessmen what they are individually planning for their industries. In the 7th poll of executive opinion, nearly 150 executives agree in predicting that 1957 will be a record year. For the first time however in addition to expecting increased sales and production, all are agreed that inflation and higher prices lie ahead. That is the gist of their detailed answers to questionnaires about production, employment, price index, wages and salaries and capital expenditures.

For 1957, both Stahrl Edmunds and Dr. Petrie agree with the poll opinion, but peering further ahead neither is so optimistic for 1958 and beyond. So many favourable factors are now moving upward together that at some future time they are likely to move downward together instead of providing that diversity of directions which has been p r o v i d i n g fundamental strength to the Canadian and U.S. economies in postwar years.

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Letters to the Editor . . .

The Fear of American Investment

Congratulations on securing and including in the Business Quarterly Robert Solo's "The Fear of American Investment." The article—resting as it does on basic considerations—is the best which has appeared on the bugaboo of American investment in Canada.

Scudder, Stevens & Clark
Investment Counsel

Can Canada Avoid Inflation

I was somewhat dismayed to see a positive error in my article and a few phrases distorting the meaning, both of which were products of the editing. The major error is the misconception of "net foreign investment". This means "exports minus imports" **not** an inflow of foreign capital as is implied in the initial italicized paragraph. The phrase in heavy type "Lack of Political Courage" was certainly not my meaning. I simply wanted to point out that economic and political considerations often conflict and it is not a matter of courage so much as **choice.** I would certainly never call the categories of government expenditures which are fixed or are non-economically motivated "prejudices" as has been done on p. 244. It is not "courage", as you suggest on p. 244, which is required by monetary policy with respect to open market sales so much as it is a careful weighing of the adverse impact upon the price of government securities along with the desirability of tight money in an inflationary situation. Clearly, the Bank of Canada would not push such sales so far as to create chaotic conditions in the government bond market.

(Continued on Page 382)

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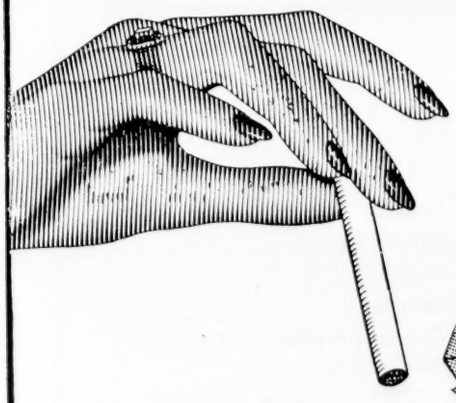

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About Our Authors . . .

Dr. R. O. MacFarlane is a product of the University of Toronto, Queen's University and Harvard. Before his present position as Director of the School of Public Administration at Carleton College he served as Lt. Col. in the last war and in the public service in the province of Manitoba.

V. C. Phelan, for nearly 30 years with the Federal Department of Labour, in 1949 became Director of the Canada Branch of the International Labour Organization. He has represented the Canadian Government in Europe supervising the selection of Displaced Persons as immigrants to Canada.

A graduate in Commerce and Finance from the University of Toronto, **W. J. Rae** is now Manager of Transportation and Supply for Lever Brothers Limited and in addition, chairman of the Transportation and Customs Committee of the Toronto Board of Trade and Canadian Vice-President of the American Society of Traffic and Transportation, Inc.

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Dr. Edward G. Pleva, although head of the Geography Department of the University of Western Ontario, actively participates in traffic problems including the chairmanship of the London Township Planning Board and the City of London Traffic Committee; he is also President of the Ontario Traffic Conference.

Dr. Robert J. Uffen, Assistant Professor of Geophysics, U.W.O., registered professional engineer in Ontario, Consultant Geophysicist to Kennco Explorations (Canada) Ltd., and the Utah Construction Co., is at present Chairman, S. W. Ontario section, of the Canadian Association of Physicists. In 1954 he was a Canadian delegate to the International Association of Geodesy and Geophysics, Rome.

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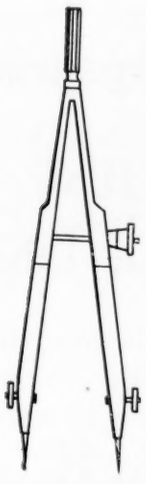

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CANADIAN TAXATION AND THE BUSINESSMAN

K. W. Lemon, F.C.A.

IN recent years provincial corporation taxes have been of only limited concern to the Canadian businessman as only Quebec has imposed an income tax on corporation profits. This subject now merits further consideration, however, since after the expiry of the present Federal-Provincial agreements in March, 1957, several provinces may impose separate income taxes and correspondingly increase the impact on corporation profits.

Canadian businessmen generally will regret a return to provincial taxation, the attendant duplication of effort, the nuisance and waste time involved in the allocation of income, the filing of separate returns and the discussion of assessments with the various taxing authorities. As the re-imposition of such taxes appears inevitable, however, a careful review of the possible effect of provincial taxation is now warranted. A variation in rates and taxing provisions from province to province could have a serious effect on the profits of some corporations.

Provinces Which May Impose a Tax

Quebec imposes a separate income tax on corporations and individuals at present and is reasonably certain to continue to do so. Ontario has stated that it will probably impose a corporation tax. Also there have been rumours that British Columbia and perhaps Alberta may institute corporation taxes in 1957. It appears doubtful, however, that the remaining six provinces will enter the corporation tax field.

Rates and Bases of Tax

At present Quebec levies a tax of 7% on corporation profits. The manner in which taxable income is determined for Quebec purposes, however, differs materially from that used under the Federal Act, in that

(a) There is no provision for the carry-forward of losses,

(b) Depreciation is allowed only a straight-line basis, is limited to the amounts recorded on the books of account and half

rates of depreciation are accrued even in loss years.

(c) Quebec corporations are taxed on profits resulting from sales to other provinces unless a branch is maintained and employees located in such other provinces. Similarly, Quebec taxes profits from sales to non-residents of Canada.

While generally agreed that Quebec will continue to levy a tax, there has been no suggestion what rate will be applied after March 1957. It appears doubtful, however, that Quebec will change its procedure with respect to depreciation or the determination of profits taxable in Quebec.

In Ontario a tax of at least 9% and rates even considerably higher have been rumoured, but in any event it is to be hoped that the Ontario taxing statute will follow closely the provisions of the federal Income Tax Act.

Provisions of the Federal Act

The provisions of the federal Act applicable to the years 1957 to 1961 state:

(a) Federal corporation taxes may be reduced by 9% of taxable income earned in a province which levies a provincial corporation tax.

(b) Income for federal purposes may be reduced by any provincial corporation tax paid in excess of the amount allowed as a deduction from federal tax.

The federal regulations with respect to the allocation of taxable income among provinces also vary from the formula used by the Province of Quebec so that the amount of income deemed to be earned in any province for federal purposes may vary from the amount considered taxable for provincial purposes.

Effect of Various Rates and Bases

It should be noted that the 9% allowance from federal tax is permitted even if the actual provincial taxes paid are less than this amount. In certain circumstances this could result in a net reduction in taxes for corporations carrying on business in any province which levies a tax of less than 9%. Against this, however, taxes will be increased for any corporation carrying on business in a province which levies a tax in excess of 9% as the tax in excess of 9% will be allowed only as a deduction from income (not from tax) for federal purposes.

Further, the various bases of computing income deemed to be earned in any province could result in a material discrepancy between the amount of provincial taxes paid and the federal tax credit allowed. This situation can work to either the advantage or disadvantage of any individual corporation.

Any further speculation on the effect of the re-imposition of provincial taxes would be premature at this time but the matter will warrant careful consideration when the final plans of the provinces are announced.

What Business Can Expect in 1957

Robert Reid, Stahrl Edmunds, Richard Petrie

Undiluted optimism about 1957 prospects but some doubts about subsequent years were expressed at the University of Western Ontario's panel discussion on the 1957 business outlook. Chairman was Robert H. Reid, Vice-President and Managing Director of London Life Insurance Co. The U.S. outlook was outlined by Stahrl Edmunds, Manager of the Economic Studies Department of the Ford division of the Ford Motor Company, U.S.A., while Canada's present and prospective boom was presented by Dr. Richard Petrie, Director of economic research for Jones, Heward of Montreal. Even more enthusiastic about future business conditions were the Canadian executives from coast to coast polled by the Division of Research at the School of Business Administration. The following are extracts from the speeches and a condensation of the results of the seventh U.W.O. poll of Canadian executive opinion.

Chairman Robert Reid

THE forecasts made at this panel last year were optimistic, but, as it turned out, not optimistic enough. At this time of year, when all businessmen are busy laying detailed plans for the year and years ahead, this annual stock taking of the prospects by the University of Western Ontario serves a most useful purpose.

Particularly, this year, with both U. S. and Canadian economies careering at full speed while the bankers are flashing warning lights against inflation, a study of the road ahead is most important and opportune.

THE 1957 BUSINESS OUTLOOK FOR THE U.S.A.

Stahrl Edmunds

THE United States is in its seventeenth year of a broad cyclical expansion in business activity. True there have been three minor interruptions in this expansion, one due to reconversion and two to inventory adjustments. But on the whole the expansion has been large, persistent,

and a bit incredible. It has been incredible in the sense that we have felt the need, every now and then, to pause and take stock of this amazing boom to see if it can conceivably continue.

All too often in the past the conclusion has been that the expansion would not continue. The forecasts of the 1947-1950 period were predominantly cautious to pessimistic. In 1953 and 1954, the outlook appeared clouded; and, while most capable economists did not expect a serious downturn, neither did they foresee the magnitude of the 1955 upsurge. In fact, throughout this period, an almost standard introduction to a forecast was to say:

> "The business outlook for the next year is very uncertain because of the mixed economic forces at work, but the longer range outlook is basically strong."

I would introduce my economic analysis by saying exactly the opposite. The business outlook for the next year is virtually assured; the economy will expand. But the longer range outlook—from two to four years—is less certain.

We now have a conjunction of powerful expansionary forces, all working together—rising consumption, rising investment, rising government expenditures, and, alas, rising prices. Never in the postwar period have as many of the major segments of demand been expanding together as they are now.

This unison of demand is at once reassuring and a concern. It is reassuring in the sense of indicating good business conditions in 1957. It is a concern in the sense that this conjunction of demand forces, now moving up together, may also later move down in unison. In short the strength of the long post-war boom has been the rolling readjustments that have taken place, a new source of demand springing up as another declined. The year 1956 has been a good example of such cross-currents —housing and automobile markets declined but capital investment and non-durable consumption took their place. These rolling readjustments have led to the concept of the break-up of the business cycle. But now we are faced with something new—a cumulating of demand in virtually all segments of the economy at once. This broad cumulation of demand across the economy is what makes the 1957 outlook more certain and the longer outlook less certain than has been the case in other years of the past decade.

The Present Stage of the Current Business Expansion

To understand where we stand in the present business cycle, it is useful to go back to the 1953-1954 period. By this time the major military needs arising from the Korean war had been largely met. In

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addition, a good many of the accumulated needs arising from World War II had been filled. That is, the undoubling of families and the number of rooms per family, as well as the number of cars per family had returned to about prewar levels or higher. The same was true in most other lines of consumer goods. The economy had, in effect, caught up fairly well with the deficiencies in goods which had characterized the preceding twenty years. However, very little allowance or margin had been made for the real improvement in the quality or quantity of goods available to consumers.

At this stage the government in 1953 reduced is spending, bringing about a decline in production and inventory related to military goods. This was reflected for a time in a drop in consumer expenditures. Beginning in the second quarter of 1954 and continuing through most of 1955, consumers provided an extraordinary stimulus to the economy by stepping up their rate of buying.

In effect there was a vast up-grading of the market as people sought to improve the quality of their goods and services in practically every line of business. It was reflected in more and better sportshirts as well as in more and better automobiles.

The immediate effect upon business was to increase expenditures for inventory to take care of the enlarged volume of demand. Then by mid-1955, with a large internal flow of funds stemming from the rising volume of sales, business entered upon a large expansion in plant and equipment. Business realized that this great up-grading of the market would require newer, better and larger facilities in the future.

By the end of 1955 consumer expenditures for durable goods, particularly for automobiles and housing, began to decline. However, the expansion in business investment and consumer purchases of non-durable goods and services more than offset the declines which had taken place. Throughout this period the role of the government was fairly neutral. In summary, the United States had a consumer stimulated economy in 1954 and early 1955. This shifted to an economy expanding mainly from business investment in late 1955 and through 1956.

The expansion in the American economy coincided with improved economic conditions throughout the world. As a result, the demand for industrial materials began to mount rapidly from 1954 on. The supply of these industrial materials, particularly metals, became acute towards the end of 1955 as business investment rose sharply on top of the already high level of aggregate demand.

The result, of course, has been the rise in wholesale prices of non-farm commodities throughout the past year. These price increases have been particularly marked for metals and for finished manufactures in

the producer durable goods line. The high capital goods demand for equipment and materials has also had some effect on consumer prices, to the extent that materials and costs also advanced for consumer manufactures. However, the price increases in these fields have been less, partly because the consumer market is competitive and partly because technological progress has enabled consumer goods manufacturers to absorb part of the higher costs.

Nevertheless, the advances in prices in all segments of the economy have been real enough to cause the Federal Reserve System to administer a tight money policy from the middle of 1955 to date. The tight money policy has been particularly effective because the magnitude of business investment, together with financing a larger dollar volume of business, has taxed the ability of business to finance itself. Corporate liquidity declined from 55% (cash and governments as percent of current liability) in the middle of 1955 to 48% in mid-1956. Moreover the marginal profit on sales has been declining since 1955, thus diminishing the internal flow of funds. This has made business more dependent on outside sources, mainly borrowing to finance their expansion. The tight money policy in these circumstances becomes effective in curtailing expenditures either by raising the interest rate or by curtailing the availability of loanable funds.

The Prospect for 1957

This is the situation in which we find ourselves at the end of 1956. The economy is operating at a high level, consumption has been growing slowly, business investment has been expanding rapidly and credit is relatively tight. For 1957 it is clear that aggregate demand will expand more rapidly than it has in 1956.

Three components of gross national product are relatively certain to advance. These are consumption of non-durable goods, and the consumption of services—both of which have been rising without interruption for several years—and expenditures by government, both federal and local. The federal government's expenditures are scheduled to increase for agriculture, road construction and national security. State and local outlays will be increasing for public service facilities. In the United States the state and local governments have been one of the few segments of the economy where there has not yet been the up-grading in service that has taken place in the rest of the economy. There is a real need to improve schools, streets and roads, and all the local services which go into making communities orderly and livable.

There are four less certain elements of economic demand. These are: business inventories, residential construction, plant and equipment expenditures, and consumer durable outlays.

Business inventory is likely to expand moderately to take care of a rising volume of business. In no major lines are inventories out of line with sales.

Residential construction has been among the weaker elements of the economy since mid-1955. As long as credit is tight there is probably no real expansion in sight for home building. However new housing starts appear to have bottomed out at a 1,000,000 annual rate. While consumer plans to buy new homes have dropped off since earlier this year, one-third of all families are dissatisfied with their homes and wish to move to better houses in suburban areas. The main problem is to reduce housing costs and find financing to reach a mass market for the low and middle income families.

Business expenditures for plant and equipment are likely to rise well into 1957 as present contracts and commitments are completed. A McGraw-Hill study suggests that manufacturing capacity is in line with present levels of production. According to their calculations, manufacturers are operating in the vicinity of 88% of capacity, which is about where most executives in their survey say they prefer to operate. However, capacity has been increasing at about 8% per year compared with a 4% increase in production. This disparity is not likely to continue indefinitely. Even if plant and equipment expenditures for added capacity decline somewhat, a substantial volume of expenditures will still be necessary for modernization and tooling for technological changes. The net result of these considerations are that plant and equipment expenditures will not increase greatly after the middle of 1957.

Durable outlays by consumers for 1957 are likely to increase. Automobile sales account for about half of these expenditures. Among the factors favorable to a higher level of new car sales next year are rising personal incomes and improved consumer financing position, a strong new model stimulus, and continuing need for more transportation due to suburban living and decentralization of business.

Taking all of these elements of demand into account, we can say that although the residential construction field is not expanding, the increase in total demand is impressive. Gross national product is likely to increase from $408 billion in mid-1956 to about $430 in 1957. Of this $20 billion increase in total output of goods and services in the United States next year, about $12 billion will be an increase in total goods and services and the balance an increase in prices.

The Relationship of the United States and World Developments

The United States is not alone in experiencing an economic expansion. There is a state of prosperity throughout the world for the first

time since the 1920's. Increases in production and employment have been general in the last three years and general world prices have increased in the last twelve months. Practically every major country of the world has experienced a consumption and investment boom. Most of the major countries, including Canada, and Western Europe, have found it necessary to tighten money and raise the discount rates at central banks.

Not only are all the major segments of demand in the United States cumulating in a broad expansion, but the expansion in consumption and investment is mounting throughout the world. This too adds a new element to the business outlook which has not existed for thirty years. It is natural for business investment to cumulate in the United States and in European countries as sources of raw materials and finished goods since manufacturing facilities appear inadequate in relationship to final demand. In this situation, any curtailment of demand in any of the major consuming countries would tend to affect other nations. The current decline in copper prices, for instance, makes it less imperative for copper producers and fabricators in the United States to continue their expansion and investment.

The result is that the business outlook in the United States depends upon international economic developments more than at any time for several decades. This is truly a marked contrast to the early post-war period when the United States economy appeared to advance independently and in spite of deveolpments in other nations.

The situation of foreign countries in relationship to the United States has greatly changed even since 1954. At the present time, foreign balances held in the United States total almost $15 billion. Moreover, these short term liabilities to foreigners appear to be mounting at an accelerating rate, due largely to government grants and private capital outflow. During the past year these liabilities to foreigners have built up at a rate of nearly $100 million a month, but the increases were $125 million in June and $209 million in July. Moreover foreign central banks have viewed these dollar claims against the United States as the equivalent of gold for the purpose of their own gold reserves. As a result unfavorable international developments such as the need for reserves by foreign banks, a marked inflationary trend in the United States, or a sharp decline in financial markets might precipitate a large foreign withdrawal of gold from the United States. The vulnerability of the United States to sudden demands for gold has thus increased markedly during the past few years. This is another reason why the future of the United States economy is more closely tied to foreign nations than in the past. The U.S. economic outlook for the future can no longer be examined without reference to economic developments abroad.

Most of the developments abroad appear to be encouraging, although the German economy has experienced some declines in production during the summer and has found it necessary to ease money by lowering discount rates. The balance of payments appears to be fairly well under control in most countries. However there is the danger in Europe that higher prices will lead to higher wages which could decrease exports and create balance of payment difficulties.

On the whole, then, the international economic outlook depends greatly on the success of central banks in curtailing inflation. This is a major problem in the United States as well. The great unknown, as far as the economic future is concerned, is whether money policies throughout the world can curb an inflation without also curtailing the present high levels of business investment. This is why the long range outlook for the next two to four years is more uncertain than it has been in the past. There is considerable reason to hope that economic expansion can proceed smoothly without excessive inflation or a sharp curtailment in business investment. The reasons are that the central banks are sensitive to their responsibility to make credit available when it is necessary to stabilize the economy. Moreover, the business community has engaged in more long range planning than at any time in the past. Long range capital planning coupled with long range research plans will tend to stabilize investment if financing is available.

In summary, therefore, I come back to the conclusion stated in the beginning of these remarks, namely: the U.S. economy is fairly certain to expand markedly in 1957; the outlook for the longer range period, two to four years ahead, is more uncertain, but there is considerable reason to believe that a smooth transition can be made between the perils of inflation on the one hand and declining business investment on the other.

THE CANADIAN PROSPECT

J. R. Petrie

THE gathering business momentum that became apparent some 18 months ago after the let-down in 1954, spilled over into 1956, gained even greater force in the first half of the year, and reached a feverish pitch in the third quarter. We have seen this year a steady parade of new all-time records established by virtually all of the economic indicators. The Canadian economy today is literally bulging at the seams. Never before have we experienced such prosperity and economic activity, and perhaps we have never had more ulcers. There

are those who say that we are trying to do too much too fast. This is the third great expansion boom in the post-war period.

The chief driving force in this boom is the unparalleled capital investment in fixed assets. Other driving forces are the high level of exports and the unprecedented volume of consumer expenditures. But the boom is basically one of capital expansion, most of which is business expansion. In the second quarter new capital expenditures seasonally adjusted, were running at an annual rate of $7.5 billion, more than 20 per cent ahead of last year's actual total. This is by far the greatest dollar value increase in the nation's history, and the largest relative increase since 1948. The capital program would have been even greater had it not been for the shortages of labour, materials and capital. Indicated intentions of business and governments were officially estimated at $8 billion of new construction and equipment for the year. In short, we are doing everything possible by way of expansion within the limits imposed by our human, physical and financial resources. This is another way of saying that Canada is operating in an atmosphere of literally full employment — perhaps over-employment, if such a concept is tenable. There is no elbow room left.

Capital Program

There are now indications of changes in the pattern of fixed investment that may have significant bearing on the outlook for 1957. An examination of three broad sectors of the capital program helps to show the shifting pattern.

1. *Residential Construction*

In 1955, new residential construction had a total value of about $1.5 billion, and accounted for nearly a quarter of the total capital program. In the second quarter of this year it was running at an annual rate of $1.6 billion, but this is only 21 per cent of the total. Housing, then, is becoming a relatively less important sector of the capital program.

So far so good. But we have an important trend change here that is not apparent in the above data. The story is told by the carry-over into 1956 of houses put in place last year, and by starts, completions and contracts this year. Some 79,000 dwelling units were under construction as of January 1, 1956, an increase of 15 per cent over the first of 1955, and an unusually high carry over. This provided a solid basis of residential construction in the first half, and completions have been running ahead of last year. In the first seven months of this year some 75,000 starts were put in place, just about the same volume as a year earlier. But a turning point came in July when starts were 7 per cent lower than a year ago. My guess is that in August they declined by

20 per cent. The shape of things to come is portrayed by an 18 per cent decline in residential construction contracts in the third quarter. When seasonal factors are considered, the trend is emphasized. In the third quarter of last year starts ran at an average annual rate of 145,000 units. In the fourth they were 142,700. In the first quarter of this year they declined to 136,000. In the second they were 132,000. They will be still lower in the third. Various factors are at work, the chief of which is tight monetary policy, which will be discussed later. But in some metropolitan areas a real lack of building sites is an important problem.

2. *Non-Residential Construction*

While residential construction is holding its own this year, the more important non-residential construction sector has exhibited a strong upward surge. In the second quarter it was running at the annual rate of $3.3 billion, up 22 per cent from 1955. Most of the increase is accounted for by industrial construction, of which the St. Lawrence Seaway and gas pipe lines are important segments. In contrast to the two earlier post-war outbreaks of capital spending, the current boom accents the export industries, chiefly those connected with forest and mineral products, as well as the fuel, power and transportation industries. The 1947-48 resurgence was characterized by expansion of consumers' goods industries. During the Korean War the emphasis was on defence and strategic materials industries. A significant point to which I shall refer later, is that performance in non-residential construction, high as it is, is falling 20 per cent behind intentions for the calendar year.

3. *Machinery and Equipment*

Investment in new machinery and equipment is running at the annual rate of $2.5 billion, about 30 per cent ahead of 1955. The concentration is in manufacturing machinery, and equipment for the public utilities and railroads. As in the case of industrial construction, machinery and equipment are running behind intentions, partly because of the lag in the construction projects in which to instal the machinery.

Foreign Trade and Balance of Payments

The unprecedented capital expenditure on plant and equipment could not have been achieved without heavy imports of capital goods. Imports in the first eight months of this year were 26 per cent greater than in the first eight months of 1955 and most of the increase was associated with the capital expansion program. All of the six leading imports are capital goods or raw materials and all have shown substantial increases. The number one item, non-farm machinery, is half as much

again as last year. So is farm machinery. Rolling mill products in the first six months increased by $70 million (139 per cent). Electrical apparatus is up by 21 per cent.

Exports have also increased in the first eight months of this year, but only half as much as imports. Wheat has accounted for about a third of the increase, and there has been a major increase in oil exports which are running at nearly four times their 1955 level. Iron ore shipments are up by nearly 40 per cent. On the other hand, certain key products such as lumber, aluminum, lead, zinc and fertilizers show declines. The gap between imports and exports—nearly $650 million in eight months—is by far the greatest on record. The trade deficit with the United States in the same period is close to a billion dollars as a result of our heavy reliance on U. S. capital goods.

The heavy trade deficit and a $300 million deficit on "invisible" items resulted in a current account deficit of $771 million in the first half of the year, well over double the deficit in the first half of 1955. Under ordinary circumstances such a large imbalance on the current account would cause a serious drain on our gold and dollar reserves. In most countries our current situation would spell crisis. Britain, under almost the exact circumstances, is confronted with the possibility of currency devaluation. But our current account deficit has been financed by a strong capital inflow. Long-term capital receipts were $112 million in the first quarter; they jumped to $350 million in the second. Short-term capital inflow has also been a significant factor, although it declined in the second quarter, partly a result of a decline in non-resident purchases of outstanding bonds. Despite the heavy current account deficit, official holdings of U. S. dollars have increased this year, and the Canadian dollar has strengthened steadily since last February.

Gross National Product

The marked increase in Gross National Product this year points up the momentum of the Canadian economy. The federal budgetary tax revenues were predicated on a G.N.P. of $28 billion, compared with $26.8 billion in 1955. In the first quarter of this year seasonally adjusted G.N.P. was running at the annual rate of $28.6 billion. In the second quarter, it was $29.5 billion. It will be even higher for the third, probably about $30 billion. About two-thirds of the increase in the second quarter is represented by the gain in physical volume of production. The balance is a reflection of price increases.

The most pronounced production increases in the past year have been in non-residential construction and machinery and equipment, which show about a 7 per cent rise. The rise in output has been accompanied

and abetted by a 7 per cent rise in the industrial composite employment index, and the second quarter saw the largest rise in labour income since 1950. Substantial increases occurred in manufacturing of durable goods and the construction industry.

Monetary Policy

Typically, a full-employment economy, marked by shortages of labour and materials, is characterized by inflationary pressures which may or may not be fully apparent in the earlier stages of the boom. Prices in Canada have been rising, as indicated earlier. But the average increase so far has not been very great, although it has been persistent. The wholesale price index has advanced in each of the last ten consecutive months, but the aggregate increase has been only 3 per cent. Whether or not this is inflation depends upon your definition. It might be termed creeping inflation in contrast to the galloping type of inflation experienced during the Korean War before controls became effective. In 1950 the wholesale price index jumped by 13 per cent. At its peak in mid-1951 it was 22 per cent above the pre-Korean level.

When the magnitude of the current expansion boom became apparent last year, the Bank of Canada embarked upon a monetary policy of credit restraint. Apparently the exercise was designed to prevent the kind of inflationary spiral experienced in 1950-51. As the tempo of the expansion has increased, so has the application of the monetary brakes. The Bank Rate has been increased six times in 14 months from 1½ to 3½ per cent, its historic high. This time last year the liquid asset ratio of the chartered banks was 12 per cent. Now it is about 16. The banks have been persuaded to add nearly $500 million to their liquid reserves in the last 12 months. Money is exceptionally tight, and it is getting progressively more expensive.

Forward banking commitments last autumn were such that bank loans continued to rise until August. They have subsequently declined, and the impact of monetary policy is at last beginning to be felt. This kind of restriction has various and uneven economic consequences. The banks' heavy liquidation of Canada bonds to achieve greater liquidity has depressed the bond morket, and bond yields are at their highest level in more than 20 years. Tight money is affecting different borrowers in different ways. Corporate borrowers are not so concerned over what money costs. Income tax is so high that even at existing interest rates a corporation may borrow at a lower net cost than before the war. What does concern the corporate borrower is availability of money. The established public companies which have a strong credit rating seem likely to be little affected by monetary policy. Municipalities, on the other hand, are sensitive to expensive money, and they are being squeezed.

High grade municipal bonds are now yielding more than 5 per cent. The Economics Branch of the Ontario Treasury Department has produced some interesting data to show what is happening to municipalities.

Interest Cost over Average Term (11 years)
of $1 Million of Debentures

Municipality	*On October 1954 Rate*	*On October 1956 Rate*	*Increased Cost*
Galt	$396,000	$566,500	$170,500
St. Catharines	390,500	561,000	170,500
Peterborough	401,500	572,000	170,500
Hamilton	374,000	550,000	176,000

The municipalities are hit not only by high-cost money, but in some cases it is just not available. Projects are being shelved. Ironically, the expansion programs at the municipal level are for the most part forced on the municipalities by the industrial expansion that is taking place.

The provincial governments and their agencies are also hurt. Last year Ontario bonds were offered on a 3.07 to 3.14 per cent yield depending on maturity. Today the rate ranges up to 4.39 per cent. Recently Ontario Hydro had to pay 4.75 per cent for 18-year money. Formerly they got it for 3 per cent.

Residential construction is now being hit by tight money, just as it was by the credit restrictions during the Korean War, when housing starts fell from 92,500 in 1950 to 68,200 in 1951. It took two years to build them up again. Total mortgage loans in the first half of this year were down by 5 per cent from the first half of last year, despite the maintenance of starts during that period. More significant, however, is the fact that lending under the National Housing Act (and last year N.H.A. financed starts accounted for nearly half the total) was down by 19 per cent during the first half. In June the number of units approved was 24 per cent lower than in 1955. The volume of bank mortgage lending under N.H.A. during the second quarter of this year was 37 per cent below the corresponding period of last year.

The kind of chain reaction set in motion by existing monetary policy may be illustrated as follows: the squeeze on the municipalities makes it increasingly difficult for them to provide services for subdivision porjects. The squeeze on project builders makes it impossible in many cases to assume responsibility for providing services. Many subdivision projects have been shelved. Finally, the contraction of mortgage money for individuals rounds out the picture.

Summing up, then, the tight money policy in this country is beginning to bite after a year of its existence. The large established public corporations are least affected. Marginal private borrowers and the municipalities are hardest hit. The tautness of the capital market is very well portrayed by the Treasury bill market. A year ago last winter, yield on 91 day bills was 0.78 per cent. Last week, it was 3.34 per cent. It is an extraordinary situation when current yield on 91 day bills exceeds last year's yield on long-term bonds. And I believe that money will be tighter before it is easier. So much for the past. Now let us turn to the future.

The 1957 Outlook

1956 will prove, undoubtedly, to be the best year in our history. I look for a Gross National Product of about $29.5 billion, 10 per cent over last year and more than 5 per cent over the official estimate. By year-end consumer expenditures should have broken through the $19 billion level—up 12 or 13 per cent from last year. New capital investment in 1956 should approximate $7.5 billion, better than 20 per cent ahead of 1955. The high momentum of economic activity is continuing with little prospect of anything but a seasonal let-up in the final quarter. This means that we shall enter 1957 with even a greater head of steam than we had at the beginning of this year. The main question now, therefore, is how long the current momentum is going to last. In short, are we over the hump, or are new peaks ahead in 1957?

This forecast is based on three basic assumptions: (1) continuing peace accompanied by something like the existing expenditures on defence; (2) a buoyant United States economy; and (3) continuing stringency in monetary policy.

Perhaps the most constructive factor in the outlook for 1957 is a continuing capital program which could well be as large as it has been this year. The stretch-out engendered by shortage of labour, materials and capital will result in a substantial spill-over of projects into next year. The capital program next year will be concentrated on non-residential construction and machinery and equipment. Housing is almost certain to fall off, and the decline could be substantial.

The outlook for exports is reasonably unclouded. Of the leading export items, newsprint looks firm. So do nickel, aluminum, copper, iron ore, petroleum and zinc. Wheat, as usual, is a question mark. Lumber is already declining and the trend seems likely to continue. Fertilizer shipments are off and there is little reason to expect any significant trend change. Assuming an average increase in prices of, say, about 2 per cent, Gross National Product in 1957 could reach an average annual

rate of more than $31 billion a year from now. It should break through the $30 billion level in the first quarter. My guess is that for the year it will be 4 or 5 per cent above this year. In other words, I expect the year it will be 4 or 5 per cent above this year. In other words, I expect the rate of increase in economic expansion to decline by about one-half since G.N.P. this year is about 10 per cent ahead of last year.

The full impact of monetary policy will be in play in 1957, and it seems certain to be effective in slowing the economic tempo generated this year. With the brakes on the housing program total new capital investment is not going to show the increase experienced this year. I expect that it will be near the current level. We shall have a clearer idea when the official tally of intentions is made after the New Year.

Up to this point the outlook for 1957 appears to be pretty favourable. If the anticipated slow-down in the rate of expansion materializes, it should be discernable in the second quarter and more so in the third. Consumer net disposable income may be expected to rise. So should consumer expenditures, but probably at a slower rate than this year.

In an atmosphere of economic buoyancy at very high levels, there are special situations developing that will provide a somewhat different economic climate. Housing has already been mentioned. You might expect a decline of 25 per cent. This would have a corresponding impact on lumber, cement and other building materials. Yet demand for housing will be strong as a result of a rising marriage rate and greater immigration.

An important trend is failure of prices to keep pace with costs. Profit margins are likely to be squeezed not only by higher wage and material costs but also by intensified competition. This is not apparent in total returns to date. Indeed, total profits after taxes in the first half of this year were up by 25 per cent. There is a distinct possibility (if not likelihood) of some slackening in the upward trend of corporate profits and a moderate decline in the earnings of some industries.

The heavy capital expansion program is pointing to some temporary over-capacity in a few industries. For example, by 1958 our cement capacity will be more than 60 per cent greater than it was last year, 41 million barrels as against 25 million. Competition in the industry will be sharp. There is already over-capacity in the kraft paper industry. While newsprint should be firm next year with capacity operations, by 1958 Canada could have 1.6 million tons in excess of North American requirements. But these situations are temporary and I do not view them with alarm, even if they result in some price reductions and a modest decline in earnings.

Turning now to the federal budget and fiscal policy, one gets on treacherous and shifting ground, especially in an election year. Tax revenue estimates for the fiscal year ending March 31, 1957 were predicated on a Gross National Product of $28 billion. If in fact G.N.P. for this year is $29.5 billion and if it breaks through the annual rate of $30 billion in the first quarter of 1957, the budgetary surplus, *under existing expenditure estimates,* could approximate $500 million, more or less. But it is a nice point indeed as to whether such a surplus will result in tax reductions. If inflation next year is still the official bogey that it appears to be now, it would be difficult to justify tax reductions (which would be inflationary) if monetary policy is still to be kept on a painfully restrictive basis. I just don't know what will happen, but from past experience perhaps one can predict with a little confidence a compromise—some tax reduction, some reduction of debt, and some increase in transfer payments to the provinces. If I were a Minister of Finance with a whopping surplus, and were seeking re-election, I think that I could work out a more or less palatable distribution of my surplus to meet most of the Opposition's criticisms, and still allow a reasonable election appeal.

What of the exchange rate on the Canadian dollar? This is an important factor to our vital export industries. As indicated earlier, the all-time record deficit on our current account balance of international payments has so far been more than offset by capital inflow, both short and long-term. The premium on Canadian funds is showing remarkable strength. It should continue, even though this year's deficit on current account may approach the staggering amount of $2 billion by year-end. As yet there is no indication of a let-down in capital inflow. Foreign-financed resource development promises to continue apace. Ploughed back earnings of foreign-controlled Canadian companies will probably be a continuing factor. And the widening gap between money rates here and in the United States provides further inducement to Canadian borrowing in New York, limited only by availability of New York funds. I am now convinced that tight money in New York has reached its height, while it has not in Canada, judging from the attitude of the Bank of Canada in its recent meetings with the stock exchanges and finance companies.

The import surplus next year may well be less than in 1956. The gathering momentum of volume in three relatively new export items, iron ore, petroleum and uranium, should bolster our export position. And all of these items are earmarked for the U.S. market. In two or three years from now they will probably add as much as $500 million a year to our export volume. Concurrently capital goods imports should show some decline as our expansion plans are fulfilled and our own capital goods and materials capacity is increased—i.e. cement, steel, heavy

equipment and natural gas as a substitute for imported coal. In short, Canadian funds should remain strong in terms of U.S. funds in the foreseeable future—at least through 1957. In the longer term, assuming an ultimate export surplus and a continuing capital inflow (particularly if the United States follows an easier monetary policy while we hold the hard money line), the premium on Canadian funds could well be an embarrassment to our export industries.

Conclusions

Summing up, the outlook for 1957 appears to be characterized by the following developments: (1) the rate of economic expansion is likely to decline about a half from the rate in 1956; (2) Gross National Product seems likely, under a moderate average price increase, to rise by 4 or 5 per cent over 1956; (3) housing starts may decline by 25 per cent; (4) total capital investment in fixed assets should be maintained at the 1956 level of $7.5 billion because of the continuing emphasis on non-residential construction and machinery and equipment carried over from 1956; (5) the increasing cost-price squeeze and more competitive markets will probably curb the trend of expanding corporate profits and cause a moderate decline in a few industries, notably lumber and other building materials; (6) no reversal of monetary policy is in sight, and its impact on municipal financing poses a serious problem; (7) consumer income and expenditures will probably increase in a fiercely competitive consumers' goods market; (8) wage rates will continue their upward trend, and employment will be high; (9) the premium on Canadian funds should show continuing strength; (10) the federal budgetary surplus will be in the vicinity of $500 million, but major tax reductions appear unlikely.

CONSENSUS OF GREATER OPTIMISM

The U.W.O. Canadian Executive Opinion Poll

RESULTS of the seventh poll of Canadian Executive Opinion by the School of Business Administration at the University of Western Ontario show nearly 150 executives in Canadian companies of all sizes and types predicting greater economic and business activity for the coming year. However, along with increased sales and production during 1957 higher prices are expected—a factor which did not appear in last year's predictions. This year more inflation is anticipated.

Who Is Polled?

As in previous years three quarters of the replies were from execu-

tives in manufacturing firms and 86% operate in Ontario and Quebec. Large firms did not, as in previous years, predominate. Only half of the replies were received from large organizations. Medium and small-sized companies were almost equally represented—particularly in the non-manufacturing groups. Yet this changed size composition had no apparent effect on the distribution of the predictions made.

Table I — The Poll Sample

		Total	*Percent*
I.	Number of Replies	143	100.0%
	Manufacturing	103	72.0%
	Non-manufacturing	40	28.0%

II. Location	*Total*	*Ontario & Quebec*	*Other Provinces*
All Industries	100.0%	84.6%	15.4%
Manufacturing	100.0%	78.6%	21.4%
Non-manufacturing	100.0%	75.0%	25.0%

III. Size	*Total*	*Large Firms*	*Medium & Small Firms*
All Industries	100.0%	53.9%	46.1%
Manufacturing	100.0%	55.3%	44.7%
Non-manufacturing	100.0%	50.0%	50.0%

What Do Businessmen Expect?

A larger proportion of executives this year predicted production and employment increases in the economy as a whole. In the fall of 1955 only 50% expected an advance in industrial production while in the fall of 1956, 70% expressed the same expectations. Similarly in 1955 only 36% forecast an increase in industrial employment, while in 1956 this forecast was made by approximately 52% of the executives.

In contrast, the expectations concerning the future activity of individual firms remained steady with the result that there was no significant difference in the predictions made in 1955 and 1956. In both years, executives expressed high optimism. For example, approximately 75% of the panel members predicted that the volume of both production and sales would increase in 1957. As only one quarter indicated that production for inventory would also increase, it is apparent that the expanded total production is expected to keep pace with expanded sales. Little or no increased inventory accumulation is planned in the majority of firms included in the poll.

The increases in production and sales were expected to be accomplished with little increase in employment within the firms. Approxi-

mately 60% of the executives stated that their average labour force would remain at much the same level in 1957 as in 1956. Only 37% forecast an increase.

Table II — Executives' Expectations in 1956 and 1957

	Increase		*Constant*		*Decrease*	
	1956	*1957*	*1956*	*1957*	*1956*	*1957*
	%	%	%	%	%	%
1. Industrial Production	52.9	67.1	40.5	28.0	6.6	4.9
2. Firm's Production	80.0	74.1	18.4	16.1	0.7	3.5
3. Industrial Employment	36.0	52.5	59.6	41.2	4.4	5.6
4. Firm's Labour Force	40.4	36.4	54.4	58.7	2.9	2.8
5. Sales, Individual Firms	77.3	75.5	20.6	17.5	0.7	2.1
6. Consumer Price Index	48.6	81.8	50.0	14.7	0.7	3.5
7. Price of Products of Individual Firms	36.7	51.0	54.3	43.4	3.0	4.9
8. Wages and Salaries	88.2	90.9	10.3	9.1	1.5	0.0
9. Wages in Individual Firms	80.1	86.8	17.6	12.6	0.7	0.0
10. Inventories	32.7	27.3	56.6	53.1	6.1	8.4
11. Salesmen	38.3	40.5	50.0	53.8	0.7	0.7
12. Advertising Expense	30.9	37.1	58.1	53.9	3.7	0.7
13. Capital Maintenance Expenses	25.7	28.0	57.4	51.0	12.5	15.4
14. Capital Expansion Expenses	33.1	32.2	35.1	28.7	26.5	29.4

Note: Wherever these columns do not total 100 it is due to the small number undecided.

Prices and Wages

Again the executives as a group expressed a greater conviction this year than last year that a definite upward trend in prices is underway. A much larger majority in 1956 expected product prices in both the economy and the individual firms to increase during the coming year. The shift in these expectations is shown clearly by the fact that almost twice as many executives in the current poll (81.8% in 1956 as compared to 48.6% in 1955) predicted increases in the consumer price index. Also, nearly 20% more (51.0% in 1956 as compared to 36.7% in 1955) predicted advances in the prices of products produced in the individual firms.

The expectations concerning the trends of wages in the economy and in the firms are almost identical to those made last year. Over 90%

predicted that average wages and salaries will increase while over 86% predicted that average wages in the individual companies will also increase.

Advertising and Selling Effort

The increased sales accompanied by increased sales forces in many of the companies polled. Slightly over 40% of the executives stated that they expected to add to the number of salesmen employed. However, a larger proportion (53.8%) planned no addition.

A similar picture emerged in connection with advertising expenditures with 38% stating that they planned an increase. At the same time 50% expected to spend no additional money on this activity.

The average size of the planned increases in the number of salesmen employed stood at 10%, while for advertising expenditure it was slightly larger and stood at 13%. The range for the former extended from 3% to 50% while for the latter it extended from 2% to 25%.

It appears that those increases that do occur will be implemented mainly by manufacturing firms. Among the non-manufacturing organizations over 70% expect to keep both sales force and advertising expense at the 1956 level.

Earnings (Before Taxes) and Capital Expenditures

Over half the executives stated that they expected the earnings (before taxes) of their organizations to increase during 1957 while only one third predicted that they would remain constant.

Planned capital expenditures (in dollars) on both maintenance and expansion did not follow a similar trend. In fact, a fairly large proportion of the firms were contemplating a decrease in both. Over 15% forecast that maintenance expense would fall while approximately 30% forecast that capital expansion would decline. In both, only 30% anticipated an increase.

The major difference appears to exist in the number of firms which plan to keep maintenance and expansion constant during the coming year. Over half expect no change in the former and approximately 30% expect no change in the latter. The divergence between these two is accounted for by the fact that expected decreases in expansion were more prevalent than expected decreases in maintenance.

Although the predicted reductions in capital expansion may be of some significance in the final evaluation of the possibilities for 1957, their importance is diminished somewhat by the fact that the 1956 pre-

dictions were very similar. In that year also, approximately 30% planned to reduce expenditures on capital expansion.

Summary

On the whole, executives in both manufacturing and non-manufacturing firms throughout Canada have maintained a steady optimism about the future. The major difference between the predictions of the last two years lies in the fact that in 1956 there existed new expectations of future price increases.

A few of the executives qualified their predictions by stating that the recent credit controls could have an unexpected influence on the course of events. However, apart from the fact that one or two feared an induced deflation, the executives as a group appeared to be convinced that the upward trend of the economy and business activity would continue throughout the coming year.

Nothing to Fear but Fear

Too much preoccupation with recessions and depressions can have quite a retarding influence on the decisions of management. A certain amount of caution is always indicated when the outlook is uncertain. But what management wants to bear in mind is: that the chances of having a good year of business against a poor one are about four to one (based on the experiences in Canada in the last half a century). When industry over-estimates the effect of recessionary influences it is in effect contributing to a slowing down of economic growth more than actual circumstances warrant.

—O. J. Firestone, Department of Trade and Commerce.

The Future of Mineral Exploration in Canada

Robert J. Uffen

Ever since the publication in June 1952 of the Paley Report "Resources for Freedom" with its forecast of shrinking natural resources in the face of soaring consumption, the American mineral industry has pursued an aggressive, almost relentless, program of exploration and development of reserves for the future.

This program has progressed in two ways: the expansion of American mining companies' foreign operations on a vast scale, now so familiar on the Canadian scene, with the attendant hustle and bustle by our own exploration and financial organizations; and secondly on the scientific and technological scene. It is this "Promise of Technology" with which this article is primarily concerned.

THE Paley Report made some severe but germane criticisms of the progress and effectiveness of mineral exploration—in fact of the whole of the earth sciences—in the western world prior to 1952. For example,

"The greatest scientific and educational activity over the last two or three decades has dealt with matters of chemistry, and the years since 1940 have seen a rapid rise in interest in nuclear physics. By contrast, geologists and even metallurgists are a static group."

"Maps are indispensible tools of exploration for ore bodies. Only 11% of the U.S.A. is covered by geologic maps of sufficient scale." "We have put much more engineering thought into the layout of factories to cut up metals than into mining processes to produce them."

In 1952, the chemical, communications, petroleum and aircraft industries accounted for 50% of the total of U.S. industrial research effort.

By contrast, the primary metals industry accounted for about 3% of the total; the entire mining industry contributed less than 0.5%. To make good maps, the geologist must be supported by extensive and basic geological research, both in the laboratory and in the field. In 1952 however, only 4% of the total research personnel in the U.S.A. were earth scientists (geologists, geophysicists, and geochemists), and this fact undoubtedly had some bearing on the lag in exploration for metallic ores. Again, I quote from the Paley Report: "Anyone viewing the materials problem today may well ask if a revitalization in mining, metallurgy and geology is not overdue."

Revitalization

Did these comments apply equally well to Canada in 1952? Do they apply today?

By and large I think the answer is yes. However, the stagnation has ended; the revitalization is underway. The post-war years have witnessed a rate of growth in Canadian exploration, research and development in the earth sciences undreamed of in previous decades.

The field of extractive metallurgy has made the most startling progress. With the aid of modern advances in chemistry and physics the metallurgy industry has learned how to deal with low concentrations of useful materials such as the taconite-iron ores. It has learned how to substitute abundant, for scarce, materials. It has learned how to use materials with highly desirable properties which previously had evaded the most determined efforts. Titanium, lithium, columbium, zirconium, metals now casually referred to in the daily newspapers, at one time were names confined to the chemists handbooks.

Basic research has shown fewer startling developments, at least for the public eye, but they are nascent nevertheless. The development of precise radioactive methods of dating rocks has permitted a clearer understanding of the vastness of geologic time and offers an additional means of unravelling the complicated events of earth history. It is now known that most of the rocks of the Canadian Pre-Cambrian Shield from which so much of our mineral wealth is obtained, were formed in an era which occupied 3500 million years, being at least 7/8 of geologic time.

We are beginning to understand the internal workings of the earth which, time and again throughout earth history like an enormous heat engine, fueled with natural radioactive minerals, has buckled its crust into mountains, continents and ocean deeps. And each orogeny or process of mountain making has concentrated hidden deposits of minerals of economic importance. The detailed processes involved in their disposition as ore bodies are slowly being revealed by such studies as their

naturally occurring isotopic constitution and their controlled laboratory synthesis.

Mankind's expanding need for energy sources with which to extract the desirable metals from their natural environment is now common knowledge. Fossil fuels and even the recoverable solar energy will fall short of supplying predicted requirements within a century. There remains only nuclear fission or nuclear fusion as adequate sources of energy. The achievement of a controlled fusion reaction is one of the great scientific challenges of this century.

The instrumental and organizational aspects of mineral exploration are undergoing a revolution today. The injection of considerable amounts of money into the Canadian economy by large mining organizations has brought with it fierce competition. The mining companies, bent on developing the few remaining unexplored regions of the earth's crust, are in the midst of a race to acquire reserves for the future. As a result, rapid and powerful new techniques have been developed for the detection of ore bodies in remote areas. Faced with such competition many of the mining companies are integrating the operations of their exploration personnel, much as was done by the petroleum industry ten years ago, into one effective tactical force.

Scientific Prospecting

While prospecting with a pick and hammer is still and always will be a vital part of exploration, the probability of making new discoveries by this time-honoured method is getting smaller as the unexplored areas of outcropping rocks are reduced. "Wildcat" drilling is an expensive way to prospect and most organizations prefer to direct their probing of the subsurface by scientific surveys. As mines became more difficult to find, reliance on the new techniques of geological, geophysical and geochemical surveying will become more widespread. In this respect Canada is a world leader. In 1954 at least $2½ millions were spent on geophysical exploration in Canada, more than 30% of the world total and far exceeding that spent in the USA. This amount has been increased greatly in the last two years as the use of airborne instruments has emerged from the experimental to the routine stage. Some of the techniques to be described in this article, invented and developed in Canada, are now being exported to the rest of the world. Others, developed elsewhere, have experienced their most successful utilization in the Canadian hinterland and have contributed extensively to the emergence of scientific prospecting from an expensive toy or promotional vogue to its present respected status.

Since World War II an impressive record of discovery by scientific methods has accumulated. The use of the airborne magnetometer led

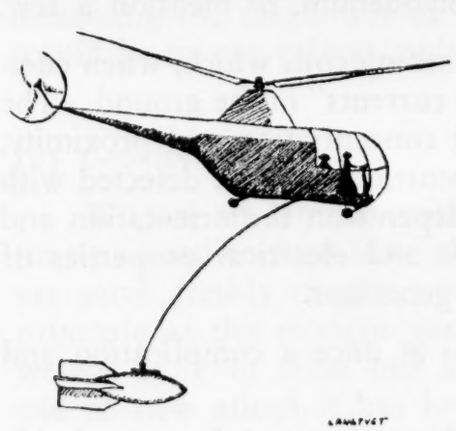
to the discovery of the Marmora, Ontario, magnetic iron deposit, the extension of the Allard Lake, Quebec, titanium discoveries, and of the asbestos occurrences in the Eastern Townships of Quebec. Magnetic and electrical surveys on the ground were instrumental in the development of the Steep Rock iron deposits, the Lynn Lake base metal deposits and the Gaspe copper occurrences. The most outstanding success perhaps has been the major discovery of the New Brunswick base metal camp through the combined use of ground and airborne electromagnetic, magnetic, gravity and geochemical surveys in a region of very little outcrop.

Let us have a closer look at some of these technological developments and venture a few predictions.

(a) The Use of Aerial Photographs

Given reliable topographic maps and a few outcrops, it is remarkable what predictions about the nature of the subsurface can be made by the field geologist. Without topographic maps upon which to plot his data, the geologist is seriously hampered, and the value of his field observations is seriously reduced. At the pre-war rate of topographic mapping the time required to produce adequate coverage of even the Canadian Shield would be astronomical (or should we say geological).

Today, with adequate coverage of the whole of the country by vertical aerial photography virtually completed, with stereoscopic devices available to contour the topography from these photographs, with splendid new instruments available for precise ground control, and with helicopter transportation to circumvent line-cutting, the geologists' requirements are being met. Further, these photographs have proven superior to maps in the detail they provide. Rock outcrops can be located prior to field work and the traverses on the ground planned in advance. Contacts between rock formations can sometimes be recognized and the patterns of contorted and fractured formations are frequently quite apparent. A few carefully chosen traverses on the ground may then yield a wealth of vital data with maximum efficiency. In fact a whole new subdivision of the earth sciences, photogeology, has emerged. Contract services are available from specialists and the photographs are being used by exploration companies, and government agencies alike, on a routine basis.



It is quite probable that the future will see an expanded use of infra-red and colour photograph in a similar way, for it is known that the abundance and colour of certain soils and vegetation are affected by weathering, zones of alteration and mineralization.

(b) Magnetic Methods

These are the oldest of the scientific prospecting methods and are used both to prospect for naturally magnetic ore deposits and to delineate the subsurface rock formation by virtue of the slight distortions they produce in the earth's magnetic field at the surface of the earth. These instruments vary in complexity from the familiar compass and dipping needle to the sensitive magnetic balance, the saturated inductor, to the most recent development—the nuclear magnetometer.

The latter instrument is based on a fundamentally new property of matter, discovered only in 1945, known as nuclear magnetic resonance. It was found that when protons were exposed simultaneously to a static magnetic field (like the earth's) and an oscillating electromagnetic field at right angles to the former, energy was strongly absorbed if the frequency of the E. M. field was correctly adjusted. The sensing element consists essentially of a coil immersed in a bottle of water which may be towed behind the aircraft in a "bird".

The instrument has the advantages of extreme simplicity, small size and light weight so that it can be carried conveniently in light fixed-wing aircraft and helicopters. Thus, it can serve as a versatile low altitude prospecting device for magnetic ores, and as a detailed mapping tool for mountainous regions, inaccessible to conventional aircraft.

Magnetic methods are the "work-horses" of geophysical mapping and are likely to remain so.

(c) Electromagnetic Methods

These are perhaps the most exciting and attractive of all geophysical methods. As the name implies they depend on both the electrical and magnetic properties of rocks. Most sulphide ores are good conductors of electricity and some are slightly magnetic. Thus the E. M. methods find their greatest application at present in the search for the sulphide ores of copper, nickel, lead, iron and molybdenum, to mention a few.

Generally these methods employ transmiting coils which, when energized by a suitable generator, induce "eddy currents" in the ground. The presence of metallic minerals in sufficient concentration and proximity, will distort the eddy currents and these distortions may be detected with suitable receiving coils. The distortions depend on the orientation and separation between the coils, the magnetic and electrical properties of the rock nearby, and the frequency of the generator.

The presence of so many variables is at once a complication and an asset.

Properly used these methods permit the extraction of a remarkable amount of information about the nearby rocks. Their ability to change

the frequency and geometrical arrangement, makes these methods extremely versatile so that their utilization in fixed-wing aircraft, in helicopters, in ships, on the ground and down bore-holes is being exploited.

In one sense the phenomenon of nuclear magnetic resonance belongs in the E. M. group. Although present difficulties may seem insurmountable, it is conceivable that one day it will be possible not only to detect the presence of buried metallic minerals but to identify the elements present. This has been the dream of a generation or so of "doodle-buggers" so that we might expect a relentless pursuit of this possibility.

Another possible development for the future is utilization of the post-war discovery that the magnetic field of the earth experiences rapid fluctuations, or micro-oscillations, as well as the previously known slower fluctuations or "magnetic storms". The cause of these micro-oscillations is still a mystery but it is conceivable that they may be utilized for exploration as a sort of naturally occurring E. M. generator.

(d) Electrical Surveys

While we are thinking about the electrical properties of rocks it is appropriate to mention the present revival of interest in ground electrical surveys. These techniques are concerned with either measuring the electrical conductivity of the rocks, or in measuring "earth-potentials" arising from natural earth currents whose origins are poorly understood.

Interest is centered around the possibility of differentiating between metallic conductors and ionic conductors, which would be of obvious value if one were faced with an "anomaly" which could be caused by moisture saturated soil (ionic) or a massive copper deposit (metallic). The basis for differentiation is that metallic conduction obeys the familiar Ohm's Law, whereas ionic conduction does not. This suggests varying a voltage applied to the ground through stakes driven into it, and measuring the magnitude of the resulting current. A natural extension would be to use voltage pulses or "transient techniques".

(e) Gravity Surveys

We are all familiar with the earth's gravitational field and at one time or another must have used a spring balance to weigh something—say some freshly caught trout. In doing so we were using the same principle as the modern gravimeter. It is essentially a spring with a weight hanging from one end, but by remarkable ingenuity and the use of new alloys it has been possible to construct an instrument no larger than a thermos bottle (which it resembles) capable of detecting infinitesimal changes in the acceleration due to gravity.

According to Newton's Universal Law of Gravity, such a gravimeter is stretched slightly more when near a dense body of rock, say a deposit of lead ore, than normally. It thus becomes possible to utilize it for prospecting. Unfortunately it is also subject to changes of elevation, and levelling, and so it has been an expensive and somewhat slow and cumbersome method, used usually only after some other more rapid technique, has provided sufficient incentive.

Recent developments may be about to change this. One company claims to have developed an airborne gravity gradiometer. While beset with limitations and complications, such a development will be pursued with vigour, for the prize is great.

(f) Radioactive Surveys

For a period of several years, prospecting for radioactive minerals became almost a national sport in the USA. Geiger and scintillation counters could be purchased at the corner drug store and the get-rich-quick desire possessed many average citizens. Now the initial romance has faded but the utilization of radiation detectors continues in a more normal fashion, and at present considerable effort is being expended to develop airborne scintillation gamma-ray spectrometers.

The idea involved here, is that not only do radioactive minerals emit gamma rays but the energy with which they are emitted is characteristic of the radioactive disintegration scheme present. Thus by using a spectrometer,—an instrument designed to measure the spectrum of the energies of the gamma rays being emitted—it is possible to identify the nature of the emitter. It may thus be possible to differentiate by measurements in an aeroplane between the presence of uranium or thorium mineralization, and potassium, which would have obvious application.

Furthermore, we are gradually learning more about the association of radioactive minerals with other minerals containing such valuable metals as columbium, cerium, and lithium. I suspect that one day much of our north country will be resurveyed with airborne scintillation spectrometers.

(g) Geochemical Surveys

Mineral exploration by geochemical methods involves the systematic testing of a large number of samples for "trace elements" in an effort to find and map patterns of dispersed elements related in some way to commercial concentrations of ore minerals. This approach to prospecting makes use of the fact that in many mineralized areas, detectable traces of the ore metals in the soil and vegetation extend outward considerable distances from a core of commercial ore. The most useful

methods of trace analysis are colourmetric, chemical, spectrochemical and radiometric.

The techniques have very little application in the glaciated areas of Canada because of our lack of knowledge about the distribution of trace elements in such transported glacial soils—as opposed to residual soils.

A most promising development has been the measurement of the heavy metal content of stream sediments. This is because experiments have shown that active stream sediments tend to concentrate heavy metals from running water by the process of ion exchange (which played a key role in the successful extraction of uranium from those Canadian deposits which are very low grade). There is reason to hope that this method will be applicable even in glaciated country.

There is however, a more fundamentally attractive reason for believing that geochemical methods of exploration have potentially important application. If it were possible to detect the primary variations in the conditions of ore formation such as temperature, pressure and chemical composition, our understanding of the processes controlling ore deposition would be advanced and our chances of finding new deposits and extensions of known ones would be sharply raised.

(h) Seismic Surveys

Seismic surveying, the study of the elastic properties of rocks by the artificial generation of sound waves through the use of explosions, has had its greatest utilization in petroleum exploration. It is a little unlikely that the seismic methods will enjoy extensive use in mineral exploration for quite some time because the targets sought are usually so small and the rocks in the vicinity of ore deposits have frequently undergone such complicated processes of deformation and alteration that the interpretation of the seismic records is an extremely difficult task. However there is a great deal of basic research currently being conducted under the auspices of oil companies into the elastic properties of rocks.

It is difficult to predict what a similar expenditure of effort by the mining industry would produce. Undoubtedly, those mineral deposits which are of a bedded nature, should be amenable to seismic exploration. The specific problem of determining the depth of overburden and glacial drift, which hampers much of mineral exploration in Canada, is now easily solved by the use of modern equipment specifically designed for shallow reflection work.

The outlook of the seismic surveyor will undoubtedly spread into mining exploration. It is here that we see the most up-to-date utilization

of electronic recording and computing machines. The modern seismograph records its observation automatically on a tape recorder which may be studied at will, and as often as desired, with an electronic analyser. The data may be programmed for an electronic computer in such a way as to eliminate the tedious and time-consuming calculation by staffs of clerks, and to portray the final interpretation as a cross-section of the earch on the face of an oscilloscope.

Exploration Tactics—(a) Operational Policy

Most exploration groups are now trying to apply the principle of "convergence of evidence". By this is meant the preparation of air photo mosaics of potential mineral discovery areas as a basis for many types of annotations or transparent overlays bearing geochemical, geophysical, and geological field data, property ownership and production records, in the hope that the combined picture will contribute more than the individual pieces of information.

The qualitative approach is reminiscent of military intelligence and is particularly suitable for the present Canadian situation. Sooner or later, however, quantitative methods will have to be included.

The emphasis on airborne surveys could not have escaped the reader's notice; the advantages for prospecting in swampy or mountainous or remote areas, are quite apparent. Since the development of the airborne magnetometer in 1948, the Geological Survey of Canada has surveyed on the average 20,000 square miles per year. If this rate were increased by a factor of ten, Canada could be surveyed in about fifteen years, and the geological mapping would take about twenty years.

The mining companies have not waited for our federal and provincial mapping agencies in the use of the airborne E. M. methods. Some observers feel that the government agencies should deliberately leave this type of survey to private organizations as they are too apt to discover a valuable mineral deposit and find themselves in the awkward position of having to dispose of it.

The race to "pick the plums" has already begun.

At present there are at least fifteen aircraft being equipped with E. M. equipment in Canada, and it is likely that an additional fifteen will be operating in a year or so. The readily detectable anomalies will have all been discovered in a matter of a few years and undoubtedly some of these will turn out to be mines. In all probability the data will accumulate too rapidly for proper interpretation and there will follow a long period of indigestion. Eventually the mineral explorers will have to consolidate, and undertake the slower and less rewarding task of painstakingly analysing the accumulated data.

There is another advantage to aerial surveying which becomes apparent when exploring in an established mining area where the mineral rights are already assigned. It is the ability to assess a prospective area without trespassing. Armed with such advance information a mining company has obvious advantages when negotiating for property options. The New Brunswick mining camp has been a prominent example. Faced with extensive overburden the property evaluator, on the ground, has been severely handicapped and the letting of many a major contract or option has been based almost entirely on interpretation of airborne data.

This advantage has only recently been appreciated in the western USA, where antiquated mining laws have left ownership in confusion in many established mineralized areas and even the most aggressive organizations can be stalled on the ground by legal entanglements.

(b) Organization

It might be appropriate to examine the structure of a modern mining exploration organization with a view to predicting possible future changes. The block diagram in Fig. 1 shows one such plan.

It must be apparent that the most efficient utilization of these varied physical, chemical and geological aids to exploration will require the services of people with widely different training and temperament. The organization and direction of the activities of prospectors, geologists, chemists, physicists, mathematicians, electrical engineers, surveyors, cartographers, lawyers, economists, and bushmen, is becoming a major problem which requires exploration managers with energy, imagination and coordinating ability.

These men must have sufficient technical background to appreciate the applicability of the various techniques to their particular problems; they must be alert to new developments; capable of rapid evaluation of data and quick to exploit any advantage over their competitors.

Directly responsible to the exploration manager are the accounting and legal departments, the chief geologist, and the chief geophysicist. Sometimes the latter two positions are combined.

The functions of the accounting department need not be elaborated here.

The legal department is assuming an increasingly important role as the problems of property ownership multiply. At one time it was a relatively simple matter to stake and record mining claims to crown lands. But the recent trend towards huge staking rushes, with promoters' and speculators' agents mushrooming around every mineral showing under investigation by the established mining companies, has brought its problems. Violations of staking regulations under such circumstances

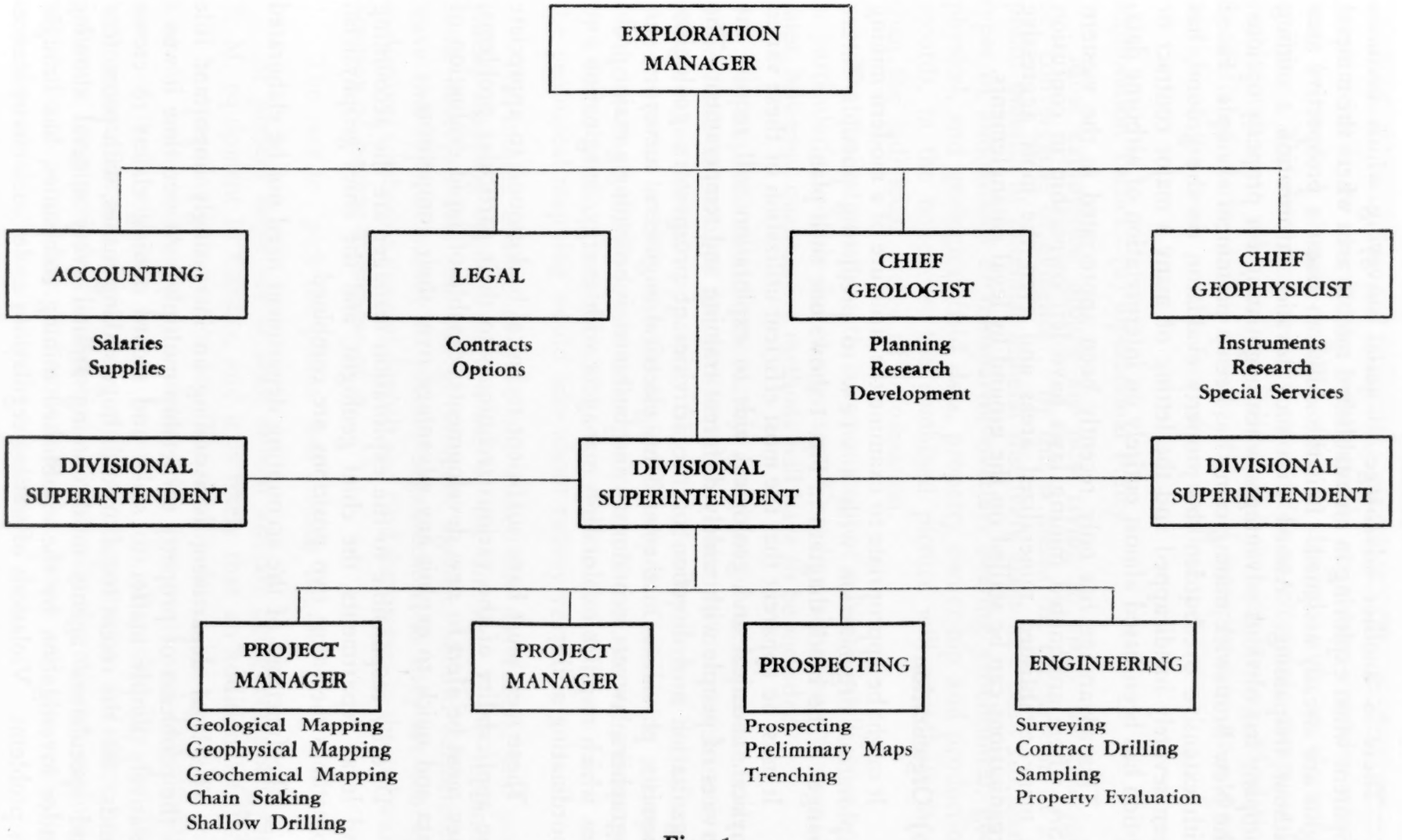

EXPLORATION MANAGER
ACCOUNTING
Salaries
Supplies
LEGAL
Contracts
Options
CHIEF GEOLOGIST
Planning
Research
Development
CHIEF GEOPHYSICIST
Instruments
Research
Special Services
DIVISIONAL SUPERINTENDENT
DIVISIONAL SUPERINTENDENT
DIVISIONAL SUPERINTENDENT
PROJECT MANAGER
Geological Mapping
Geophysical Mapping
Geochemical Mapping
Chain Staking
Shallow Drilling
PROJECT MANAGER
PROSPECTING
Prospecting
Preliminary Maps
Trenching
ENGINEERING
Surveying
Contract Drilling
Sampling
Property Evaluation

Fig. 1

are likely. Furthermore, negotiations between mining companies and legitimate prospectors for working options on individual properties can eat into the time of technical personnel which would better be spent on geological matters.

The chief geologist is responsible for the selection of suitable new areas for future work, and for the research that must precede such selection. He and his staff will be engaged in a continual search of the geological literature, must keep abreast of the changing economic conditions and predicted materials demands of the future. A doubling of the demand for a specific metal twenty years in the future requires action at the exploration level right now. The chief geologist is usually responsible for the evaluation of any mineral showings brought to his attention and must make the decision as to whether a development program (detailed mapping, trenching, sampling and diamond drilling) is warranted.

The chief geophysicist is similarly concerned with keeping abreast of the pertinent literature which today is largely concerned with instrumental developments and government maps. The importance of this latter aspect will undoubtedly increase as the data accumulates. We are already falling behind in the evaluation of the excellent aeromagnetic maps issued by the Geological Survey of Canada. The chief geophysicist is responsible for the instrumental side of exploration. He and his staff must be capable of designing instruments, trouble shooting in the field and interpreting data. He will be responsible for the appropriate utilization of special surveys, e.g., drill-hole or airborne, either by contract with specialists or if his organization prefers, through a specially trained staff.

More of his time in the future will probably be devoted to the quantitative interpretation of geophysical data. At the present time, few organizations maintain a full time geochemist, the geologists and geophysicists absorbing the chemical aspects of prospecting, but the importance of geochemistry is likely to grow to such an extent that "chief geochemist" will one day be as familiar a title as chief geologist.

Many companies working in a country so vast as Canada or those with international operations, have several divisional superintendents who are responsible for their company's activities on a geographical basis. Within his own division the superintendent will appoint one or more project managers, or party chiefs, depending on the extent of his activities. He and his party chiefs are concerned with the multitude of problems arising in the maintenance and supply of routine ground mapping, — geological, geochemical and geophysical, — of anomalous areas discovered by other means; with claim staking, trenching, sampling and drilling.

Most such divisions will maintain a number of skilled and experienced prospectors capable of independent reconnaissance in remote areas

—the truly advanced scouting parties. They also usually maintain experienced engineers engaged in routine evaluation of mineral showings brought to their attention by their own, or independent prospectors. This group is frequently the first source of news of new discoveries and are in a sense the intelligence agents of the mining world.

The Tasks

If the economic exploitation of our country's mineral resources is to proceed in an orderly fashion it appears that certain major changes will likely be made.

The first of these concerns mapping by government agencies. The facilities of our provincial and federal mapping services will have to be expanded many times. One has only to recall the expedition into the Arctic last summer by members of the Geologic Survey of Canada to realize that the expansion has started. The type of mapping will probably be of a reconnaissance nature such as would be beyond the normal activities of most mining companies.

The alternative is for mining organizations to band together and undertake projects such as "Operation Overthrust", a private evaluation largely through the use of photo-geology, of a portion of the Canadian Shield extending from Lake Superior to Labrador.

The government agencies and universities will have to expand their fundamental research activities enormously if the necessary knowledge required to develop our resources most efficiently, is to be available. It is a little shocking to realize that the cost of one jet aircraft exceeds the budget for basic research allowed the Geological Survey of Canada annually.

We must look for developments in the earth sciences and government mapping services comparable with those of the Meteorological Service which in 1956 has had a budget expansion equivalent to its total expenditure from its inception until World War II.

Secondly we may anticipate an acceleration in the trend toward the granting of mining concessions by provincial governments to organizations capable of thorough development of an area. This will likely be done by tender in much the same fashion as petroleum exploration permits are now issued in our western provinces, and will carry obligations as to development work required, as is being done in the province of Quebec and in the Maritimes.

This need not mean the finish of the independent prospector or small mining company, for safeguards will undoubtedly be demanded. For example, the holder of an exploration concession will undoubtedly be required to relinquish parts of his holdings at specific intervals

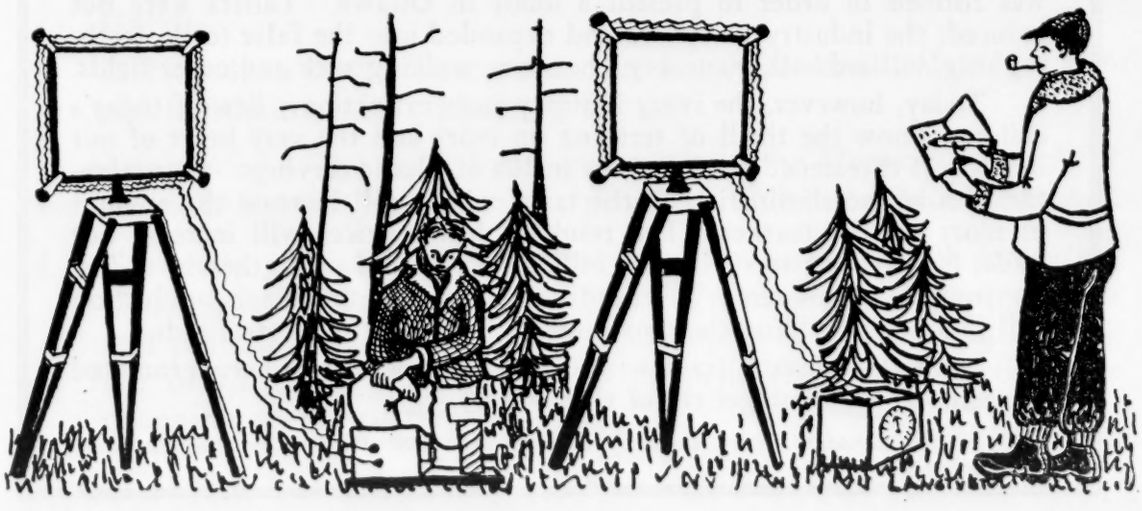
and the land will revert to the Crown. Judicious use of this principle should preserve the advantages of the present system of public staking by private individuals, while permitting the ordered exploitation of our inaccessible mineral resources.

At the present time mining legislation does not inhibit geophysical exploration and the laws governing the use of airborne surveys for assessment work are really quite fair. There has been some talk of introducing air trespass laws but this is unlikely, especially if the use of the concession system is expanded.

Finally, let us consider briefly the problem of personnel.

Much has been written recently about the prospective demands for trained personnel but little has been said about the nature of their training. As far as geology is concerned the requirements for teaching, industry and research are such that, rather than the present categories of economic geologist, geochemists and the like, we will probably see the emergence of "Earth Scientists" and "Exploration Engineers". Such a development might clear away some of the confusion between research and professional activities.

To conclude may I again quote from the Paley Report: "The climate of the American University in the past has been best for fundamental, or basic or pure research. Industry is concerned with problems closer to its profit sources, and research in Government can go only so far away from the practical—the dollar-and-cents rewards of research—before encountering the fear of unsympathetic scrutiny by the holders of the public purse. Until the First World War the United States derived its basic scientific information almost wholly from European centers. American contributions to basic knowledge, increasing healthily thereafter, have now encountered some adverse conditions. The Second World War flung the universities pell mell into practical matters of desperate urgency and commanded their attention to applications of



knowledge much more than to knowledge itself. Since the end of the war, the tense, high-velocity world in which we live has made it difficult for the universities to return to the pursuit of knowledge for its own sake. That the universities now perform only 10 percent of our research, and pay for only 3 percent, is more than a little disquieting; some scientific institutions are now so completely beholden to Government—to say nothing of industry—for their research support that it is hard to imagine how they would continue their basic programs were this support to be withdrawn."

So spoke the Paley Report of the American scene in 1952. What of the Canadian scene today?

During the summer of 1956 the Royal Commission on Canada's Economic Prospects—"The Gordon Commission"—completed its public hearings. To no other aspect of our country's development will its findings be more important than to the exploitation of our mineral resources. The Commission's report will be of paramount interest and value to all concerned with Canada's national resources.

Petition to the Canadian Tariff Board

Gentlemen:

We humbly submit that the tariff on ivory carvings be eliminated in order that our industry may survive in Canada.

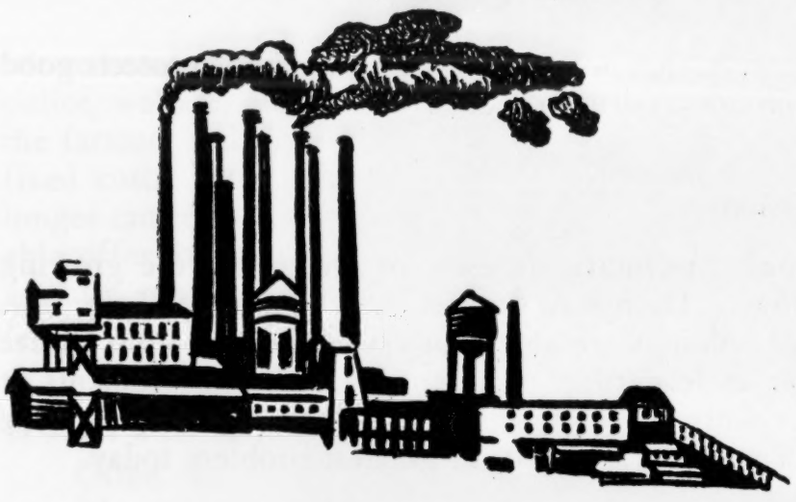
You will remember that the ivory carving industry started in Granville, now Vancouver, in 1873 to employ indigent Chinese who otherwise spent their time smoking opium while waiting for railway construction jobs, and that when the infant industry began to produce ivory-tipped foresights for military rifles (officers for the use of), the Government, realizing the importance of independence from foreign suppliers in times of national emergency, granted tariff protection.

In 1878 a foreign power in the interests of the Royal Siamese, Lower Umtali and South Myaderbad Trading Company started free trade negotiations with the Canadian government. The Ivory Carvers Association was formed in order to present a lobby in Ottawa. Tariffs were not reduced; the industry prospered and expanded into the false teeth, teething ring, billiard ball, piano key, chessmen, walking stick and other fields.

Today, however, the ivory industry faces extinction. Few of today's children know the thrill of teething on ivory and the very heart of our industry is threatened by the steady influx of plastic carvings. Our salvation lies in the elimination of the tariff which will increase the amount of ivory on the market. The resultant lower prices will increase our trade; more youngsters will play billiards, chess and piano thereby reducing juvenile delinquency. Billiard ball, chessmen and piano production will increase providing the Government with additional tax funds.

Lastly, Gentlemen, trade with the Far East will have been promoted (remember, we must get rid of that wheat).

—From the Canadian Ivory Carvers, Billiard Ball and Piano Key Manufacturers Association.



Industry Crops Canadian Fruitlands

Edward G. Pleva

Canada's recent rapid economic growth is both cause and effect of the population increase. Most of the population growth has been urban and Canada's towns and cities have grown larger both in population and area, sprawling out beyond city limits and creating a new type of community—part urban, part rural. These city fringes, while really part of the city, are usually politically separated from it. Rural municipalities are consequently saddled with urban responsibilities. Here Dr. Pleva outlines the problem and suggests what should be done.

THE urban fringe problem is being handled in four ways in Ontario:

1. Joint planning. The Ontario Planning Act, 1950, with its many annual amendments enables the central city and the fringe municipalities to carry out uniform planning practices within an urban region.
2. Metropolitan area. Toronto and its fringe are consolidated by special legislation into a planning district.
3. Annexation. The central city may apply to the Municipal Board for an extension of boundaries as provided under the Municipal Act.
4. Township planning. The fringe area may recognize the increasing urbanization of its area and carry out advanced planning procedures and practices. Some of the finest examples of planning in Ontario are of this type where the local councils recognized in time the changing nature of their economy.

It is obvious however, that none of these four methods protects good agricultural land from non-agricultural uses.

Farms Grow Subdivisions

Only a few people in Ontario foresaw or recognized the growing problem of the fringe. Definitive studies on the problem are few. While comments and opinions are abundant very little of a solid nature has been done either in leadership or in study by the governments at federal, provincial, county, or municipal levels. The problem of the sprawling city has been listed as Ontario's greatest problem today.

The sprawl of the city starts first by the moving out of people who do not wish to live in the city or who cannot afford the costs of setting up a home there. Just outside the city, in the rural township, land is cheaper, taxes are lower and based on farm assessment, and buildings are under fewer, if any restrictions. At first, settlement takes place along the main highways, but later the space close to the city between the main roads becomes filled up.

It is at this stage that active annexation should take place. However, the central city usually misses its opportunity and the logical time for annexation procedures is missed. Finally the central city itself is filled up and many households have no other choice but to settle in the fringe, suburbs, or nearby satellite villages. This new element is made up of energetic, aggressive, and financially competent families. A great change occurs in the planning picture. In many parts of Ontario better planning is being done in the surrounding municipalities than ever was done in the central city.

No matter what legal and planning aspects the fringe may illustrate one thing is certain. The city destroys agricultural land directly and indirectly. It is obvious that where a subdivision is put on what was a farm the farm ceases its existence as a producer of food stuffs, fibers, and industrial products. The indirect destruction is more subtle but just as effective in destroying farm values. The rural municipality must provide more and more services for the urban fringe. Many

fringe homes have too low a valuation to carry the costs of schools, roads, police, welfare, and other needed services. The tax load is extended to the farmers and since property taxes represent a large part of a farmer's fixed costs, taxes may rise to the point where the farmer feels he no longer can remain in farming. At this point he is tempted by any reasonable offer for his land,now based on non-agricultural values, or he may actually promote the sale of his land for non-agricultural purposes himself.

Is Price a Suitable Control of Land Use?

Often the farmer finds he has been re-assessed on the basis of possible residential or industrial use of the land, no matter how remote the possibility may be. A farm next to a residential subdivision may be assessed for high taxes simply because a residential subdivision is possible although the farmer may not have any intention of subdividing.

A further incentive to sell is provided in the prices, abnormal to the farmer, paid for farmland by speculators and developers. When presented with the possibility of gaining several years' income at once, many farmers prefer to sell and buy another more distant farm.

TABLE I

Agricultural Resources: Factors Affecting Suitability of Land for Agriculture in Canada

	Square Miles	Percentage of Total Area
Total land surface	3,577,163	100
Individual factors:		
Adequate rainfall	2,250,000	63
Reliable rainfall	1,860,000	52
Favorable temperature	850,000	24
Favorable topography	1,500,000	42
Suitable soil for agriculture	570,000	16
Combination of factors:		
Adequate and reliable rainfall	1,680,000	47
Adequate and reliable rainfall and favorable temperature	360,000	10
Adequate and reliable rainfall and favorable temperature and topography	250,000	7
The same and suitable soil for agriculture	110,000	3

It is not necessary at this time to discuss the disorderly way in which rural land eventually becomes urban and industrial land. The only and vital questions are: When are we justified in taking good agricultural land out of production merely to use it for standing room for houses, factories, schools, roads, airports? Is an urban or industrial use of land necessarily the highest use of land? Most of the great and fallen empires of the past had glaring defects in their attitudes towards land.

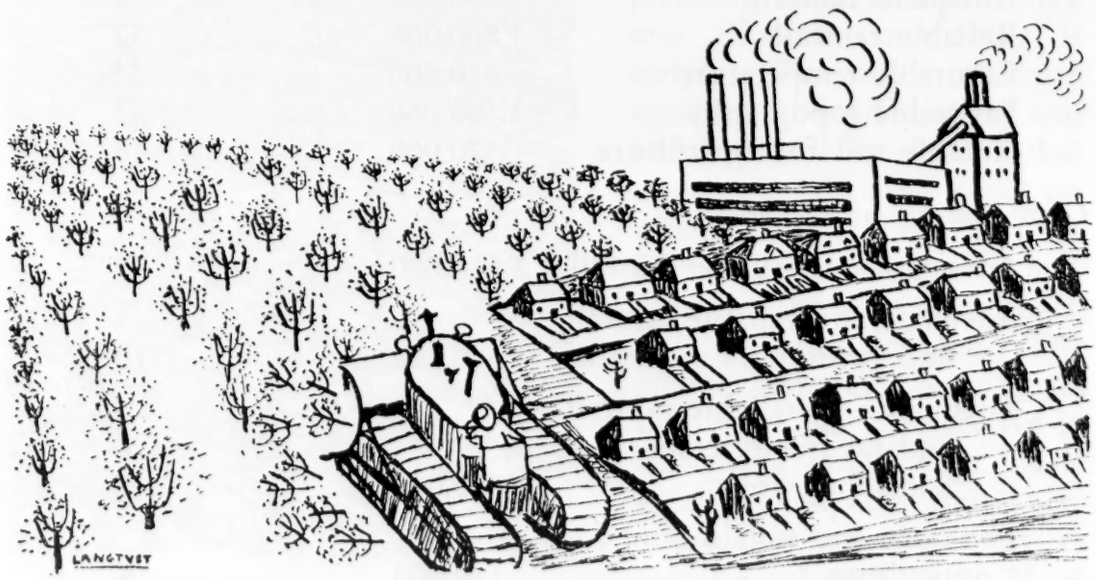
Canada's Farmland Poverty

Canada is not as well endowed with good agricultural land as the sheltered naive urbanite sometimes thinks. An interestingly low man-land ratio further confounds the illusion. The facts are shown in Table I.

85% of Ontario's recent industrial and urban growth has taken place on excellent or very good agricultural land. Often a hilly area of non-agricultural land which would make fine home sites is shunned while a nearby lowland farm may be chopped into postage-stamp lots with bull-dozed basements. The fact part of the land is in the flood plain of a river seldom causes any concern to the developer.

Golden Horseshoe Beaten on Industry's Anvil

An area causing great concern is the Niagara fruitland. The so-called "Golden Horseshoe" around the western end of Lake Ontario from Oshawa to Niagara Falls includes the rapidly expanding urban areas of Toronto, Hamilton, St. Catharines, and Niagara Falls. Unless controlled, economic forces during the next twenty-five years will transform this into a unitary area of urban and industrial development, a true supermetropolis. The Seaway is merely an additional factor to augment a long list of good geographical, economic, social, and, often underestimated, political reasons accounting for the continued growth of the Canadian district about the western end of Lake Ontario. Some



of the finest horticultural land in North America, the only land of its type in Canada, is in the shadow of this great urban and industrial expansion of the sprawling cities and towns into the Niagara district.

Is it wise to let sterile land uses (the use of land for standing room only) destroy the natural productivity of well endowed, good agricultural land? The observer does not need to be a trained geographer or economist to realize that there are many thousands of acres of low-grade agricultural land within the economic area of the Toronto-Niagara peninsula where housing subdivisions and industrial districts may be located according to a socially beneficial plan. Is it necessary to let good agricultural land be swallowed up by non-agricultural uses? The real question, to get right to the heart of the problem, is this—is it possible in a democratic society to steer urban and industrial development to non-agricultural land when it can be proved that the national interest is served by the existence of continuing agriculture on good land?

The Arguments for Laissez-Faire

Before answering these questions and committing Canada for all time, let us study the arguments for and against. The following are the main arguments for not interfering with the "natural working of the price system":

1. There are other areas outside the blighting shadows of cities able and willing to increase production to make up for any loss of crop in the Niagara district.
2. Tender fruits (the Niagara specialty) are a luxury and therefore not necessary. "Let them (sic) eat apples". "Norway has a high standard of living yet there is not a peach tree in the whole country".
3. Urban use, being a concentration of assessment, is in reality the higher use of land, as contrasted to rural use.
4. Industrial location factors are more exacting than agricultural land use factors and, therefore, must take precedence.
5. The modern state is based on a complex set of business and industrial relationships and Canada's position in the world depends on its relative place in industrial nations. The businessman must assess all cost factors and his decisions, indirectly, reflect what in the long run is in the country's best interests. In other words, "what is good for business is good for Canada".
6. The Province made the original mistake of running the Queen Elizabeth highway right through the fruitlands. The modern superhighway with well regulated interchanges naturally stimulates residential and industrial development.

7. "The orchards with their 'sand over clay' soil make excellent cheap subdivisions well suited for septic tanks. I can even advertise that a few peach trees will be left on each lot".

8. "This is a free country and a man has a right to do with his land what he feels is best for himself."

The Case for Control

The following are some of the arguments for preserving the fruitlands in agricultural use:

1. The Niagara fruitlands represent the only possible place for the production of small and tender fruits in eastern Canada.

2. As the population and economic stature of Canada grow the need for luxury and semi-luxury fruit products will increase.

3. Careful studies now underway in the Niagara fruitlands indicate an abundance of land, unsuitable for fruit-growing, especially on the Escarpment, that could take the necessary urban and industrial expansion without destroying the valuable fruitlands.

4. The seemingly fabulously high prices offered for land in reality represents only a five year product of these highly desired fruit areas. Land is sold only once when it is used as a mere foundation; it is "sold" every year (and forever if under skillful management) when used as a producing agent. As one fruit farmer said, "We should not kill the hen and then start to wonder what happened to the supply of eggs".

5. Advanced thinking in regional planning shows the necessity for green belts or low-density land among and separating the high-density urban areas. These green belts, not only parks and river valleys as commonly thought by the layman, should include large belts, strips, and tracts of valuable farmland, the preservation of which is in the national interest.

Some Methods of Land Use Control

Land use may be controlled in order that the development of fringe areas (especially in the Niagara peninsula) may be orderly and in line with the best national interests in the following ways:

1. ZONING: This approach fixes the use of land in a pattern dictated by the general ideas of the best use of land resulting in the greatest benefit to the community at large. Zoning, often opposed mildly in urban areas, is opposed violently in the Niagara district. A typical statement: "why should I be frozen in farming because

I am a good farmer on good land while that no-good farmer down the road can sell his farm to General Motors for a fortune and retire to Florida?" It is apparent that zoning, long possible in Ontario, is not sufficient to save the fruitlands.

2. ZONING BY PROVISION OF SERVICES: This positive approach to the problem required that the municipality provide water, sewers, electricity, roads, and schools in areas considered of less importance agriculturally. Potential settlers would then be drawn into the serviced areas and away from the farmlands. The municipality, with the aid of industry and the transportation companies, would establish fully-serviced industrial tracts. This approach has many supporters among bona-fide farmers who realize that the high density assessment will be valuable to the local economy and that at the same time the farmlands are being saved from bearing the added costs of carrying the uncontrolled urban sprawl.

3. Agricultural land use should represent the most exclusive category of use and be a more special use than if zoned for single family residences. Up to now, agricultural land has been considered the lowest category, open to any use. The municipality would not freeze land forever for agricultural use but it should be able to study each proposal for a change of use carefully and attach such conditions for development to insure that regional interests are served. For example, a developer would think seriously if he realized he would be responsible for the cost of all the services in a development.

4. The municipailty, using legislation of the Water Resources Commission Act, could bring water services through an agricultural area without permitting residential connections.

5. Agricultural taxes would be related solely to the costs of agriculture rather than to the increased needs of urbanites of the sprawl.

Suggested Solutions

1. The Ontario government now recognizes the need and desirability of an overall and thorough survey of land use and land capabilities. Much excellent patchwork has been done but now a systematic approach to the work is necessary in order to give the whole picture and to tie together the existing surveys.

2. Special attention must be paid to the fringe areas undergoing great development about and around the cities and towns. Adequate procedures for dealing with urban and industrial expansion must be given to the municipalities facing and meeting growth problems.

3. Permissive legislation is necessary to enable the component municipalities of an economic region to set up standards for development and to carry out a fulfillment of these standards by necessary statutes and by-laws. At present the municipalities within urban clusters or within a port area are opposing each other in various kinds of assumed rivalries when in reality unified or even unitary plans should be worked out for the development of the whole economic region. The need for regional planning on an economic basis is becoming more and more apparent. This co-operation must be more than the occasional "joint-dinner".

4. The provincial government has announced a long-range twenty-year highway building program for the construction of new superhighways as well as for the improvement of existing highways. Proper planning of the highway grid may help in the development of new patterns of economic function in Ontario. The new Water Resources Commission Act permits the carrying out of a master plan for water resources in Ontario. Circulation (highways) and water (supply and sewage disposal) are critical factors in industrial and urban development. The provincial government with its authorized agencies is able to facilitate the establishment of new economic regions as well as to insure the orderly growth of existing urban areas. Development, under legislation now in existence, need not be haphazard and untidy.

5. The full co-operation of industrial and business leaders is necessary. The responsibilities of private enterprise are strengthened by the obligations of government in guaranteeing that the hit-and-miss methods of the past will give way to a rational program of regional development in which all the necessary participants have full and equal roles.

Business Views of University Graduates

Neil Armstrong

The flood of business executives that descend on universities to gather their annual crop of graduates are often outspoken about graduates, universities and facilities. Here Neil Armstrong, Placement Director at the School of Business Administration, U.W.O., retells their tales.

WITH the continuing expansion in business and industry, the increased percentage of employees in supervisory positions, and the increased breadth of outlook required by business leaders, all Canadian companies are actively engaged in an all-out search for talent.

As Mr. John Deutsch, when Assistant Deputy Minister of Finance, told the Toronto Personnel Association: "In a period of rapid growth the problem of finding an adequate number of executives and supervisory personnel becomes increasingly difficult. When things are moving rapidly, adequate and careful planning becomes vital; failure in this respect will be crucial and very costly. For such planning there must be a sufficient number of well trained and properly qualified executives, experts and supervisors."

Industry has generally accepted the principle of hiring college graduates to meet their needs for trainees for management and campus recruiting has assumed a major role in industry's overall personnel recruiting program. Each year industry spends time and money interviewing students on university campuses across Canada. One American study places the current cost of hiring a graduate at $320 even without executive time involved in the hiring process. The figure is lower in

Canada, but even at half the figure, it represents an annual expenditure of over half a million dollars, without counting that the universities also put considerable money and effort into their job placement programs.

Industry's Reactions to Campus Recruiting

The growing intensity of recruiting activity is in itself some measure of industry's satisfaction with the college graduate, but industry also criticizes both graduates and our college placement programs. Many of these criticisms, formally expressed at the 1956 meetings of the University Counselling and Placement Association, are reported here.

Industry is critical of the university's inability to increase the flow of graduates. Current reports and surveys indicate that in many fields less than 50% of industry's requirements are being met by university graduations. Immigration is supplying some of the deficit but the fact that the demand far outruns the supply is indicated by the ever rising starting salaries being offered.

Industry would like to see universities use their facilities on a year round basis with a class graduating each semester. Schemes for reducing the total time in school with more industry-university combination of classroom and actual job experience have been advanced and are being tested.

What Does Industry Want in the Graduate

Business leaders with the responsibiilty of choosing their subordinates and successors in business have outlined the qualities that should be possessed by the business leaders of tomorrow.

Herbert Lank, President of Dupont Company of Canada, Ltd., told the Unipersity Counselling and Placement Association in June, 1956:

"What do company representatives look for when they interview college men? What must recruits possess which is superior to a computor? I suggest the brief answer is potential for growth. Let me give a more detailed analysis. The National Industrial Conference Board recently conducted a survey among 240 companies. Here is how the seven principal selection factors were ranked:

1. Impression candidate makes in the interview.
2. His personal history and background.
3. Scholastic record.
4. Extra curricular activities.
5. Employment experience including the Armed Services.
6. Opinion of College Authorities.
7. Psychological test scores.

The general impression in itself may be a composite of what we might call personal characteristics. These same companies listed the seven personal characteristics they consider most important in this order:

1. Character
2. Growth potential
3. Personality
4. Attitude
5. Intelligence
6. Appearance
7. Health

I might try to condense the characteristics we are looking for by saying that business is looking for the whole man to take his proper place as a leader for the future. Only such whole men can ameliorate the difficulties of increasing integration of business and society in our modern world."

Mr. P. M. Draper, Vice President of Canada Iron Foundries Ltd., on the same occasion, said: "The interviewers look for essentially the same qualities in every student. Most of all he wants to see potential for growth. He wants a whole man—you cannot utilize part of a man—you take him all, so the "all" must be acceptable. Few people in industry work alone so they must be able to work with others and later supervise others and develop them. The ideal man is a man of vision, who is an objective thinker, can analyse problems and make sound judgments."

Irving S. Olds, Chairman of the United States Steel Corporation, told Yale University: "The most difficult problems which American enterprise faces today are neither scientific nor technical but lie chiefly in the realm of what is embraced in a liberal arts education."

Dr. Stanley F. Teele, Dean of the Harvard Graduate School of Business Administration cited major trends with which executives will have to deal:

"1. The accelerating rate at which development in the physical and social sciences are being applied to business administration.
2. The steadily increasing emphasis on advance planning by business.
3. The attention to the relations among the people within an enterprise.
4. The sharply growing acceptance of responsibility by business executives outside the individual enterprise."

The job description of the executive of the 1970's begins to take shape.

Does the Graduate Meet Specifications?

Entrance standards are too slow and not designed to select those people most likely to benefit by a college education. The high failure rate is claimed to be a direct reflection of the shortcomings of the admissions procedure. High school graduation is not enough. The universities must adopt additional criteria for judging the fitness of applicants for higher learning. Means and not brains still appear to be the basic requirement for admission to college. Yet for every student in college today there is another young person of at least equal intelligence excluded by lack of adequate means.

Current academic standards of much college education are not high enough and a major portion of today's graduates lack scholarship, failing to grasp fundamentals to think originally or imaginatively.

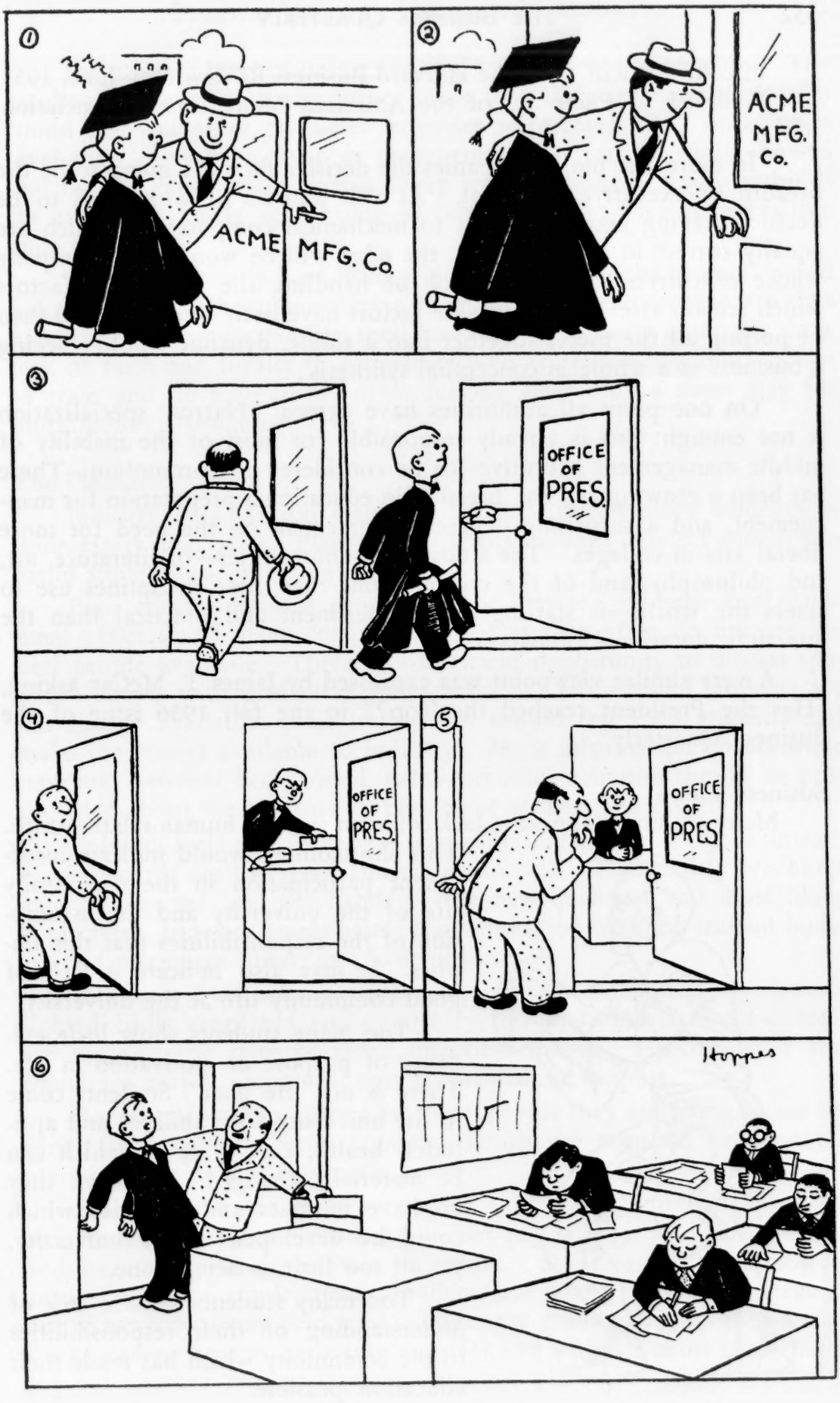
The curricula of too many Canadian universities do not give enough opportunity for the development of skills in written and oral expression and graduates are generally unable to communicate effectively. Poor thinking gives rise to poor expression.

Specialists vs. Non-Specialists

Many graduates in the professions show only a superficial knowledge of their field of study and too many have become too specialized. Some business leaders complain that graduates are difficult to fit into their organizations because they lack any "bread and butter skills".

H. S. Sutherland, General Manager of Shawinigan Chemicals Ltd., told the School of Business Administration of the University of Western Ontario in August, 1956:

"With reference to your graduates in Business Administration we do run into some problems. In many businesses, particularly manufacturing, a man usually must make a name for himself in a particular sphere before he is given any broad responsibility. Our problem is this—when a graduate comes looking for a job, there are relatively few slots in which he can be placed. We would suggest that young students be urged to acquire a secondary skill so that a greater range of positions would be available to them in their early careers. After all, you can hire just so many market analysts."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In contrast, writing in the Harvard Business Review May-June, 1955, Mr. Frederick E. Pamp Jr., of the American Management Association, states:

"In more and more companies the decisive factor is going to be the breadth of executive judgment. As vast areas of what used to be decision-making become subject to mechanical computations which are equally correct in all companies, the edge will be won by the company whose executives do a better job of handling the qualitative factors which remain after the measurable factors have been taken out, and then of putting all the pieces together into a single, dynamic whole—'seeing a business as a whole in conceptual synthesis'.

"On one point all authorities have agreed. Narrow specialization is not enough; this is already responsible for most of the inability of middle management executives to be considered for promotion. There has been a growing call for 'breadth' in educational preparation for management, and a surprising degree of agreement on the need for more liberal arts in colleges. The study of the humanities—of literature, art, and philosophy, and of the critical terms that these disciplines use to assess the world—is startingly more pertinent and practical than the 'practical' vocational preparation."

A very similar viewpoint was expressed by James T. McCay asking, "Has the President reached the Top?" in the fall 1956 issue of the Business Quarterly.

Business Views

Many graduates appear to lack common sense in human relationships. This shortcoming would indicate insufficient participation in the community life of the university and the assumption of the responsibilities that this implies. It may also indicate a lack of good community life at the university.

Too many students show little evidence of purpose or motivation in life. There is no "life goal". Students come to the university with abilities and aptitudes, health, etc., none of which can be materially changed. However, they do have interests and attitudes which could be developed at the university, yet all too little is being done.

Too many students show a lack of understanding of their responsibilities to the community which has made their education possible.

The attitude level of university graduates is judged unhealthy. The results of a recent extensive survey made by a large service organization found that university graduates' attitudes were consistently on a lower level than any other group in management. A careful study showed that the job expectations of this group were unrealistic. Industry holds the university partly repsonsible in contributing to these unrealistic expectations.

Students generally have little prior knowledge of the business world before they find themselves trying to make a career there and are thus handicapped in understanding their function. Too many graduates show lack of faith and loyalty in companies who are expending much effort to train and develop them—often leaving after only a short stay for more money elsewhere.

The Placement Office

Industry sees far too many unqualified, disinterested students in unnecessary interviews. Placement directors should pre-select and recommend students for interviews.

Poor communications generally exist between students and placement officers and many companies feel that they often do not see the best people available. There is insufficient opportunity to discuss specific students with professors and satisfactory estimates of students are not readily available. The universities should test their students and make the results available to industry. More information on academic standing, personal background, extra-curricular activities should be pro-provided about the students by placement officers and faculty.

Industry feels that its special recruiting literature often goes unread. Notice boards are too small and poorly located. Their costly brochures are not directed into the hands of the best qualified and most likely applicants. Industry wants better communication with the student body. A good placement library is a basic need.

Interview facilities on most campuses are inadequate — "poorly lighted, badly ventilated, lack of privacy, too far from placement office", are some of the remarks about interview rooms. The interview surroundings play an important part in establishing rapport.

Recruiters want to know how many people they are going to see before they arrive. Better communications are required between the placement office and employers

Students take too many interviews. Too many students appear at interviews unprepared. Students do not pay enough attention to dress and punctuality in interviews procedure. Students take too long to answer offers of employment. Students are taking unfair advantage of out of town company paid trips. Too many graduates jump jobs during the placement season, accepting an offer and within a short time changing for another more attractive. Student placement ethics should be

maintained on a high plane in spite of what they may think of company procedures.

Conclusion

With any activity as intense as college recruiting there are bound to be mistakes and shortcomings on the part of the universities, the students and the employers. On many campuses the realization has just recently dawned that college recruiting is likely to be part of our way of life for some considerable time and realistic steps are being taken to meet the needs of large-scale placement programs. University administrators have been aware of the academic problems for some time and have been continually reappraising admission procedures, academic standards, curricula, etc. In a time of rapid change and growth it is obviously difficult to keep ahead of the needs of industry. The universities promise their best efforts to continue to provide leadership in this area. So long as the university and industry are able to sit down in conference and discuss their mutual problems and hear each other's criticisms, we feel that we will continue to make progress.

Black Myths

First there is the myth that today only governments can produce economic growth fast enough and of the right character. Let me concede at once that there may be no substitute for government in a great many instances when it comes to getting development off the ground. But it is a dangerous myth to believe that economic development is a matter for government alone. The enthusiasm and potential contribution of every individual must be courted in a successful development program and that means leaving a wide area of freedom for individuals to follow their own development initiatives and encouraging them to do so . . .

Then there is the myth that inflation is a handy device for making development painless. I am glad to say that I think this myth is almost ready for burial. There is a growing awareness of how inflation erodes savings, destroys the criteria for judging the soundness of investment, and plays havoc with a country's balance of payments . . . The myth that inflation is harmless is dying, but we still have a long way to go before it is securely laid to rest.

Finally, I would like to mention the myth that a foreign investor today is merely an up-to-date version of the old colonizers. Sometimes I think all our stereotypes of foreigners are at least 50 years out of date. We tend to believe that, while our own lives are changing, the rest of the world is standing still. This kind of myth is by no means peculiar to the less developed countries.

The danger today is not that the foreign investor will ask too much of a developing country, but that the developing countries will do too little to attract him. Today, the foreign investor cannot go into a country unless he is actually wanted by the people of the country. By indulging the myth that the private investor is trying to force an entry to engage in some sort of evil exploitation, the less developed countries are cutting themselves off from one of the most productive sources of development assistance available to them.

—Eugene R. Black, President of the International Bank.

Executive Development

R. O. MacFarlane

At the Eighth Annual Conference of the Institute of Public Administration of Canada, Dr. MacFarlane sparked a discussion on executive development in Canada with the following address. The questions, used as sub-headings, were submitted to him by the programme committee of I.P.A.C. to whom our thanks are due for permission to publish in advance of their publication of the full eighth conference proceedings at Victoria and Vancouver in September, 1956.

THE subject of executive development is one which causes great concern today to industry, business and government. The larger the enterprise grows the more important does the function of management become. Under such circumstances, management also becomes more exacting and the training of efficient personnel is therefore more difficult and more expensive. Somewhat over-simplified, the problem is to get competent men, or at least men with potential competence, into executive jobs at an early age so that they will have the opportunity to develop. The possibilities of making mistakes in this process are very great. The wrong people may be picked. As one president said to his vice-president who tried to persuade him to dispense with the services of a young executive who had made an error which cost the company $100,000: "I cannot fire him because I have already a half million invested in his previous mistakes." Equally expensive, if not so apparent, is the error of not picking the right people. The problem of development begins with selection, but it does not end there. Ralph J. Cordiner, President of General Electric stated: "There has been a growing realization in American industry that great untapped opportunities lie in finding ways to develop more fully our human resources—particularly the managers of our business enterprises. Technological advances and the increasing complexities of managing under today's and tomorrow's conditions have made manager development a necessity as well as an opportunity."[1]

[1]Quoted in Druckner, P. F., "The Practice of Management", (New York, 1954), p. 184.

Are Good Executives 'Born' or Can They Be Produced By Training?

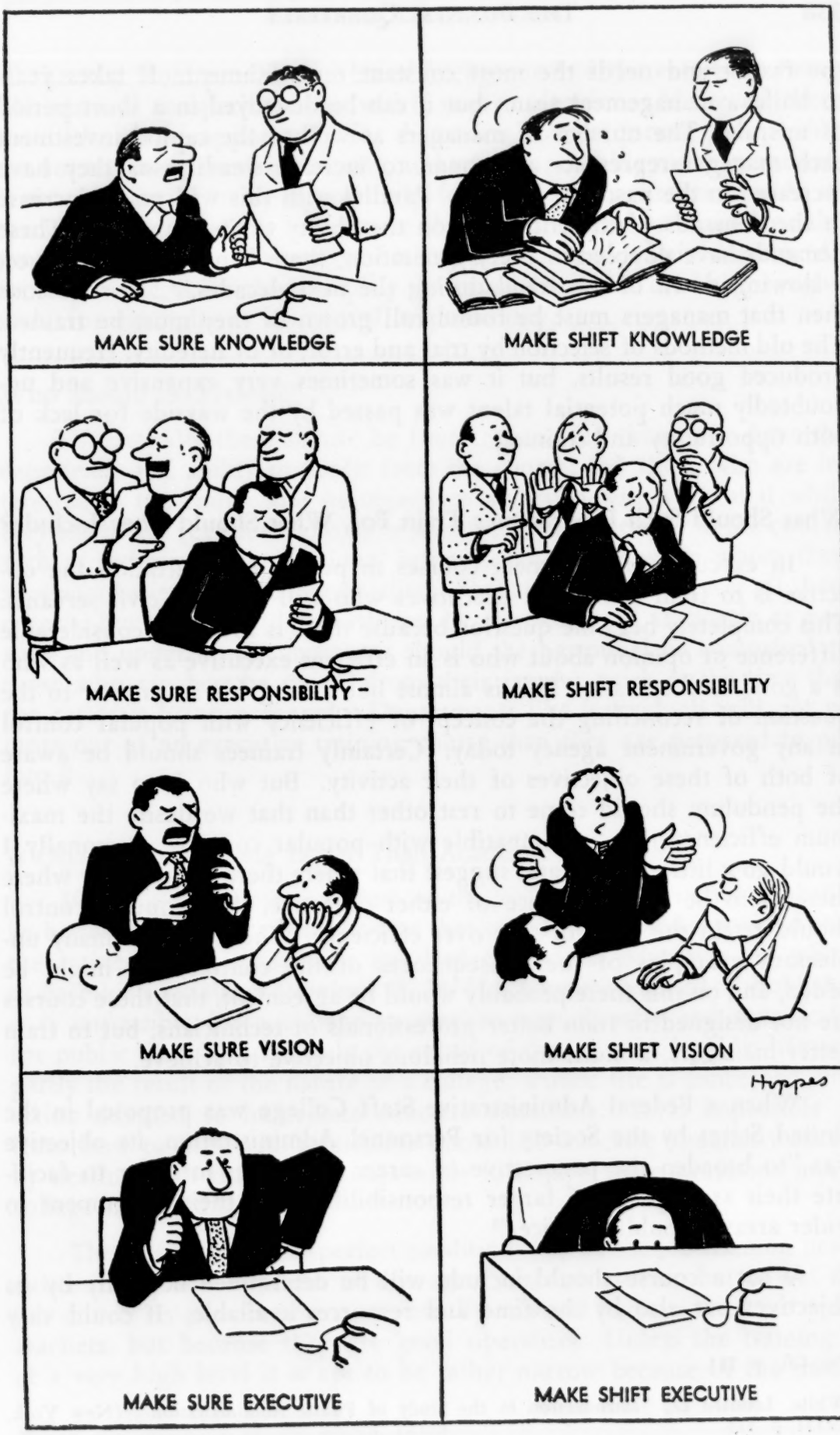
This question is just as difficult to answer in the field of executive training as in any other type. One might well ask, are teachers, business men, or musicians, natural born or trained? Do they have talent or technique? Do they have aptitude or training? One might even suggest that they are all probably more competent if they have something of both, and the more the better. While no one would argue that you can make bricks without straw, training or the development of techniques is probably more important in those functions where there is just one answer. One has to go very low in the intelligence quotas before he reaches the point where he cannot train the individual not to touch a red hot stove. Experience will also reinforce training in these functions.

At the other end of the scale, aptitude is probably more important in the exercise of these functions where there is no single correct answer but where every decision is a question of judgment, although even here experience can be a valuable teacher. In this respect one must always be on guard against the dead weight of seniority and a sharp difference must be drawn between twenty years' experience or one year's experience repeated twenty times. Training undoubtedly helps to rub off the rough corners and to make even a mediocre operator less bad. It also helps greatly with routine operations, but it does not necessarily assure the somewhat more intangible qualities of imagination, incentive, stability, responsibility and common sense. It is probably easier to teach the multiplication table or even the binominal theorem than it is to establish beyond any reasonable doubt that honesty is always the best policy.

Are Administrative Training Programmes Worth While?

The pragmatic answer is yes, for the simple reason that industry, business and government are prepared to spend money to operate such courses. When we ask the second question, however, 'how do they know', we are in more trouble. It can be stated that most of the men who take the courses say they are worth while, and practically all of the men who give them say the same thing. But any statistical evaluation is very difficult to achieve. Most of these courses are non-technical and do not lend themselves readily to measurement by the yard, no matter how figurative the yard may be. Their objective is usually long range, and therefore it takes considerable time to have the proof of the pudding.

Of the need for managers there is no doubt. And as the size of enterprise, both public and private, increases and as automation continues, there will certainly be a need for more and more managers. Peter Drucker, in "The Practice of Management", states, "Managers are the most expensive resource in most businesses—and the one that depreciates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the fastest and needs the most constant replenishment. It takes years to build a management team; but it can be destroyed in a short period of misrule. The number of managers as well as the capital investment each manager represents are bound to increase steadily—as they have increased in the past half century. Parallel with this will go an increase in the demands of the enterprise on the ability of its managers. These demands have doubled in every generation; there is no reason to expect a slowing down of the trend during the next decades."[2] It is obvious then that managers must be found full grown or they must be trained. The old methods of selection by trial and error, or by heredity, frequently produced good results, but it was sometimes very expensive and undoubtedly much potential talent was passed by the wayside for lack of both opportunity and training.

What Should Such Programmes Train For, What Should They Include?

In executive development courses in public administration the obective is to train competent executives who will be good civil servants. This completely begs the question because there is room for considerable difference of opinion about who is an efficient executive as well as who is a good civil servant. This is almost like asking for an answer to the question of reconciling the concept of efficiency with popular control in any government agency today. Certainly trainees should be aware of both of these objectives of their activity. But who is to say where the pendulum should come to rest other than that we desire the maximum efficiency that is compatible with popular control? Personally I would go a little further and suggest that where there is doubt, or where there is to be some sacrifice of either objective, that popular control should retain the right of way over efficiency. There are too many unpleasant examples of the consequences of the contrary. It might be added, and on this there probably would be agreement, that these courses are not designed to train better professionals or technicians, but to train better managers, a much more nebulous objective to achieve.

When a Federal Administrative Staff College was proposed in the United States by the Society for Personnel Administration, its objective was "to broaden the perspective of career executives in order to facilitate their assumption of larger responsibilities and their assignment to wider areas of public service."[3]

What a course should include will be determined not only by its objectives but also by the time and resources available. It could vary

[2]Op. Cit., p. 111.

[3]White, Leonard D., "Introduction to the Study of Public Administration", (New York, 1955), p. 373.

all the way from providing a broad background of the enterprise being administered to specific cases which require decision. Above all there should be ample opportunity for discussion both in formal groups that are not too large for this purpose, and what is probably more important, it should provide every opportunity for informal discussion outside of specific time allotments. A course should also make provision for the presentation of various points of view, political and administrative. As far as possible, it should exemplify the principles which are being taught, such, for example, as a sense of responsibility.

Who Should Be Trained?

Theoretically there should be four criteria: (a) those who have the experience and ability to profit from the course; (b) those who are interested in the course and its objectives and who will work at it while they are there; (c) those who have something to contribute to the course, such as technical or professional information; (d) those in whom their superiors believe there is potentiality. Few candidates will meet all these criteria, but they should nevertheless be approximated as closely as possible and under no circumstances should the personnel be comprised of those who can best be spared from their regular work at the time that the roster is being prepared. Departments like individuals will get no more out of an executive training course than they are prepared to put into it.

Is On-the-Job Training Better Than Academic Courses?

If one could achieve perfect on-the-job training it would probably be better than any academic course that could be devised, provided that the trainee had a reasonable standard of general education on which to base his specialized training. R. M. Hutchins maintained "I hold that it is impossible for a college to prepare men directly and specifically for public life. This is partly the result of the nature of public life and partly the result of the nature of a college. Public life is concerned with action adapted to immediate concrete situations. It is impossible to learn how to deal with immediate immediate concrete situations except by dealing with them. It is impossible to import these situations into a college curriculum."[4]

The difficulty is that perfect conditions for on-the-job training never exist. The prime function of any agency is not to train but to get the job done. Its personnel are not usually selected because they are good teachers, but because they are good operators. Unless the training is at a very high level it is apt to be rather narrow because of the nature

[4]Public Administration Review, March, 1956.

of the operation. Academic training on the other hand is almost certain to be very general, directed to long range objectives and in most cases not very practical. It may even emphasize what theoretically needs to be done rather than what is, or is ever likely to be, done.[5] The answer to our question depends in part on the existing state of the individual's training. If he is now in an established professional or technical position or even if he is managing personnel engaged exclusively in his own professional field, he will probably benefit more from a broad general academic course than he will from an intensive practical course. On the other hand, if he is a young man just out of college, lacking experience in any specific branch, then a much more technical course will probably serve his needs better. It might be suggested that all trainees require something from both types of course, but in general, unlike the military dictum, training should be to reinforce weakness rather than to exploit success.

Can Various Methods of Training Be Successfully Combined?

This probably depends on what we mean by methods of training. If it is combining training on-the-job with academic courses it is very difficult, if not impossible, both for physical and other reasons. Academic courses can be provided to supplement on-the-job training, but it is extremely difficult to integrate these two types, if the academic aspect is to remain academic. The Maxwell School of the University of Syracuse has had some experience with internships which were essentially an attempt to combine these two aspects of training. The State of New York is presently experimenting with a plan under which they take in as temporary employees 50 college juniors and they hope that on completion of their senior year in College that many of them will return to permanent employment in the State service. In Canada, the Civil Service Commission has for some years been conducting a successful course for administrative trainees, which runs from October to April. These young people have a regular working assignment. They are released for a week at the beginning, a week at the end, and a half day each week in the interim for formal instruction in administrative practices.

If by method of training we mean the techniques to be used in an executive development course the answer is quite different. The course may include lectures, general discussions, panels, seminars, syndicate discussions and case discussions. Each seems to have some advantages in particular fields. For example, the lecture is still useful for disseminating information, especially broad, general concepts, but is is usually more effective if it can be kept brief and can be followed by questions and discussion. On the other hand, it is now very generally agreed that

[5]Simon, Smithburg & Thompson, "Public Administration", (New York, 1950), p. ix.

the case method is probably the best for discussing human relations. The seminar and syndicate group techniques are useful for maintaining a high degree of interest, particularly on highly controversial topics. It would seem, then, that unless the proposed course is a highly specialized one, that several techniques can be brought to bear with profit.

How Should Trainees be Utilized During and After Training To Help Them Attain Full Development?

In in-service training as wide and diversified an experience as possible should be afforded. But the trainee should be left long enough on a particular job to have mastered its essentials. A Cook's Tour of a department is no substitute for learning on the job. The trainee, too, should be attached to a competent official who is himself interested in training, and who is prepared to take the time and trouble necessary for this task. To attach a newcomer to an official who is too busy to supervise the trainee or who is not the slightest interested in doing so, could be a complete waste of time. The official should also have an opportunity to assess the potentiality and the progress of the trainee.

Theoretically there is no such happy state as "after-training" unless one assumes that training never ceases, which is a most dangerous doctrine. Let us assume that after-training then means after formal training when the trainee takes up a position in the organization. In these circumstances he should be placed where he can show his worth. This does not mean that at the same time he has not got a job to do. On the other hand, because he does do his job well should not be reason for not moving him to some other position to diversify his experiences. Inter-departmental transfers would be the ideal, but too often these arrangements are based on 'you give us your good ones and we will give you our poor ones'. The trainee should, as soon as possible, be given some responsibility, and faced with some decisions that he has to make for himself. But at the same time he should have some one to whom he can turn for assistance. This is simply a reasonable follow-through in training programme and a good example of Canadian caution.

How Successful Are Administrative Training Programmes?

In the past 25 years there has been a rapid expansion in administrative training programmes, and this expansion has been greatly accelerated since the second world war. In many ways the staff training courses of the armed services were the fore-runners of more recent development. The Graduate School of the U.S. Department of Agriculture began courses in administration, in addition to the scientific fields, in 1935. The U.S. Civil Service Commission has operated a joint Executive Train-

ing course in cooperation with American University since 1945, and several states are now carrying on similar programmes. Harvard Business School, both in its regular courses and in its short 13-week courses for business executives brought the case method into prominence. A great many other institutions now offer similar facilities, and in Canada the University of Western Ontario in its general business administration courses and in its 2-weeks and 5-weeks courses for executives has attempted to achieve the same objectives. Many of the Canadian universities now provide at least one course in Public Administration in their regular political science programme. The School of Public Administration at Carleton College has attempted to group its courses to provide training for public servants in the same way that the schools of business administration have done to train graduates for business positions. A great many business corporations have provided executive training courses for their own officials. In Canada the best known illustration is that of the Canadian National Railways. The Civil Service Commission has attempted to do the same thing through a senior officers course, which has been offered for the last three years at Kemptville. In so far as these courses have been successful it has been because they have provided an opportunity for an exchange of views and discussion of many administrative matters which could not be so dealt with in the normal day-to-day operation of a government agency. There has been nothing very revolutionary in either the material or the method that has been used. The course has offered the opportunity for people with a wide experience who have been genuinely anxious to pool that experience with that of others similarly interested.

Leonard D. White, reviewing the American situation says, "Despite many laggard jurisdictions, as the whole scene is surveyed in perspective it is clear that a renaissance in the public service is upon us. In increasing measure the ideal of settled, stable administration based on superior competence is taking hold of the American people. Within the last quarter century there has been a quiet revolution in theory and practice of formal preparation for public service careers and in-service training in federal, state, and local governments. The consequences have been salutary. A much more competent, responsive, and sophisticated civil service has emerged where careful selection and subsequent training have been at work."[6]

The development of these courses, for better or for worse, illustrates the realization of the need for some form of executive training. Long since there was a similar admission of the need for professional and technical training. The increasing size and complexity of government, and the interrelation of its many agencies, have created problems of co-

[6]White, Leonard D., "Introduction to the Study of Public Administration", p. 378.

ordination and communication which require both aptitude and skill. But probably the most serious problem is the reconciliation of the concept of efficiency in government administration with the fundamental political concept of popular control of policy. The business of the state must be well done, but it must also be done within the framework of our fundamental political beliefs. While courses are no panacea in the solution of this problem, they do help, and anything that helps to solve this basic problem of administration in a big democracy is worth while.

Hewers of Wood and Drawers of Water

There are relatively as many people employed in Canadian manufacturing industries and as much money earned in them as in the United States. Canada is now one of the most industrialized countries in the world, second only to the United States in terms of industrial production per capita. In terms of total value, Canada is among the six leading industrialized nations of the world (after the United States, the United Kingdom, Western Germany, France, and presumably, the U.S.S.R., again measured in terms of national income originating in manufacturing industries). This is a remarkable achievement for a country comprising only about three-fifths of one per cent of the world's population, considerably smaller than the other leading industrialized nations . . .

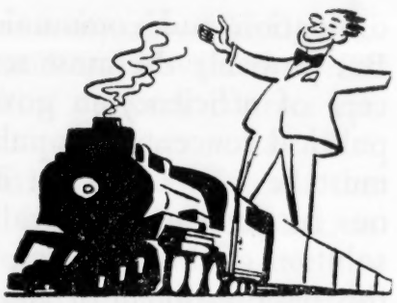
In the post-war period, notwithstanding the fact that this has been a period of reduction in tariff barriers and trade restrictions on a world-wide scale, Canadian manufacturing industries have been doing better than have the importers of manufactured goods. From 1929 to 1955 the gross value of manufactured products in Canada rose from $4 billion to $19½ billion, or five times. About 85 per cent of the total manufacturing output is sold in the domestic market. And if partially manufactured products are excluded the proportion of fully fabricated articles sold in Canada is increased to 92 per cent. Over the same period imports of partially and fully manufactured products in Canada rose from about $1 billion to $3.8 billion, or to four times the 1929 level . . .

From 1929 to 1955 real national income income originating in manufacturing industries has risen at an annual rate of 4.1% compared to 2.4% in our primary industries, 3.1% in our service industries (including governments) and 3.5% in total real national income.

The evidence lends very little support to the argument that Canadians are still hewers of wood and drawers of water.

—O. J. Firestone, Department of Trade and Commerce.

The Industrial Traffic Management Function



W. J. Rae

The traffic management function exists in modern business organization because transportation costs, i.e., the efforts and assets committed to giving goods place and time utility account for not less than a fifth of our gross national product. In a business enterprise the traffic management function is to use transportation techniques in such ways and quantities as will result in the most efficient operation of the enterprise as a whole. Not only is the proportion of our economic efforts devoted to the moving and storage of goods much larger than casual attention might suggest, but the techniques used in these efforts are more involved and variable. Furthermore, the pricing process by which transportation activities are directed, and through which they influence many other commitments of economic goods and services, is surprisingly complicated. This pricing process is not simplified by the social and political considerations that are constantly being introduced.

Thus we may set out the essential nature of the traffic function and note the basic realities upon which it rests. The following paragraphs are directed to the development of the theme in terms designed to interest the thoughtful business man rather than the economist, with the hope that business managers may be moved to review the importance of transportation in their concern and the control exercised over its use.

THE magnitude of that portion of our economic effort that comes under the general heading of transportation is easily underestimated, as it never appears in accounting records under that heading. Yet when one considers that the cost of raw materials usually includes an element of transportation, and the number of manufacturing stages, each separated by a period of transportation and storage that a basic material may pass through before reaching the final consumer as a finished product, a total of impressive size is anticipated. It has been

estimated that in Canada the transportation element in our gross national product is in excess of twenty percent. This would appear to be a minimum, as a similar calculation for United States results in a figure of twenty-five percent, and we could expect the Canadian proportion to be larger.

At first glance this estimate may appear excessive, but a moment's consideration of the proportion of our factory buildings given over to storage of raw materials and finished product, and to the vast number of trucks, mostly private rather than public carriers, that use our roads and streets, makes the estimate appear very reasonable. So will a moment's contemplation of the distant sources of many of our raw materials and the wide range of areas in which we sell our goods. All this is true to a degree anywhere in the western world, but in Canada it is particularly applicable because of our large foreign trade and the distance that separates our major manufacturing areas from their raw materials and from large sections of the domestic market.

Any prudent businessman, once aware that an element of his costs was of appreciable magnitude, would satisfy himself that within his organization there was someone functionally responsible for the control of that element. The amount of time and effort that would be expended in implementing control would be determined by the susceptibility of the element to control, the relative magnitude of the element, and as well, the absolute magnitude. In many industries transportation costs by all these tests would warrant specific attention. Probably there is a traffic function to be performed in most firms, whether or not it is so recognized, and whether or not anyone is actually accepting responsibility for it.

Who Is Responsible?

Recognition of the traffic function does not necessarily mean that there must be a formally designated traffic department or transportation manager. Circumstances of size, organization or the relative intricacy of the problems to be solved may indicate some different approach. In one relatively small company the president does most of the important traffic work, for the simple reason that the traffic problems are sufficiently complex to require a man of considerable ability to solve them, yet in the aggregate do not justify the full time application of such skills, and the use of such a man in other

areas of the business would be difficult. While this may be a passing phase in that business, the important point to note is that the president recognized the importance of the function under these conditions and consciously accepted the immediate responsibility. The traffic function is being performed acceptably, but there is no traffic department.

In another instance responsibility is placed on a shipping and production foreman. The total amount of transportation involved in this firm's operations, while sizeable, is not large enough nor are the problems complicated enough to justify much time being spent on them by the higher levels of management, where talents are directed more to research, product development, and a highly skilled sales department. The function again is recognized, and responsibility is definitely placed, although all concerned agree that the job is not being done as well as it should be. The solution here appears to be the development of traffic skills in the foreman concerned, until such time as conditions make a full time traffic specialist a sound investment.

The existence of firms as those described would suggest that there may be an opportunity in Canada for independent transportation consultant services to furnish smaller companies with the higher skills associated with transportation cost control, on a part time or retainer basis, in much the way as some personnel consultants now operate.

At the other end of the scale are those industries in which the transportation element in total costs is large, or where the amount of money spent on transportation is of sizeable dimensions. In many of these concerns they have appointed skilled management and staff to a separate department with responsibility for the control of transportation costs and the use of transportation to the best advantage of the business. In such companies the head of the department bears titles such as traffic manager, traffic director, distribution manager, vice-president in charge of transportation, and the like. They include companies in which the holder of the title sits in a corner all by himself, and those with a hundred or more people all engaged in keeping control of transportation costs.

Transport Costs Cannot Be Ignored

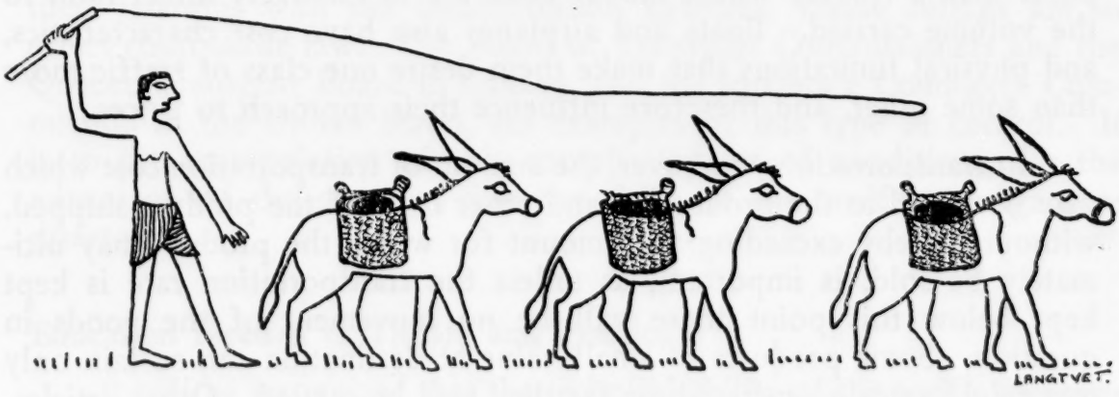
Unfortunately, there are companies, large and small, who still regard transportation costs as Acts of God, to be borne with patience and submission. They will conscientiously devote legal and managerial skill to labour contracts, the purchase of supplies, office organization or any other segment of business costs, and yet ignore transportation costs which may be of the same or greater order of importance, and perhaps much more controllable. This is sometimes the case even where it is probable

that transportation costs are the factor limiting the area which may be economically served by the concern.

Some businesses require more skill and effort to be spent on the traffic function than do others, and it is not always easy to tell just how much is needed, or to determine that the talent paid for is actually being applied. Standards are hard to set and difficult to assess. Only by knowing thoroughly the economics of his own business, and by some understanding of the limits within which the traffic function must operate, can a business manager know what to expect of those responsible for it. Management consultants as a class, with some notable exceptions, seldom seem able to give much guidance in this respect. Observation would suggest that too little is spent on this function more frequently than too much, and that all too often those responsible are either not permitted to make a full contribution to the business or are incapable of doing so, because of lack of training or knowledge.

Wide Range of Traffic Management Duties

As indicated, the traffic function is to purchase or provide transportation of the types and at the prices that permit the industry to operate at optimum efficiency. Sometimes that means using the transportation agencies with the lowest rates and at other times it calls for the use of one with higher rates. It may mean suggesting new plants or other investment so that less transportation is necessary. At other times it may take the form of recommending that plants specialize to obtain operating economies and that product be intershipped between plants from process to process or to provide a full range of product at each plant. It may take the form of supplying fast service to a special customer, or the arranging for warehouse stocks close to the point of sale. In one situation the purchase of trucks, planes, boats or railways may be advisable, while at other times the function may be best performed by careful avoidance of the ownership of any form of transportation service. In many cases the redesign of the product or its packing may be the field to which most of the effort must be directed. Frequently



what is needed is the persuasion of transportation companies to reduce the price of their services, or to provide a service more useful to the industry concerned. These suggestions by no means exhaust the possibilities, but simply indicate the wide range of means at the disposal of the practitioner of the science of traffic management.

The reader will appreciate from the preceding paragraphs that transportation is such a pervading element that in achieving its optimum usefulness the traffic manager must obtain most of his results through close co-operation with other sections of the organization, finance, production, sales, planning, purchasing, or whatever other divisions of responsibility may be represented in the business. There is hardly any branch of the business with which the traffic function will not at some time be engaged in positive joint effort directed towards some aspect of general business efficiency. It is therefore highly unlikely that the function can be properly discharged by any person or group of persons devoted largely to the checking of freight accounts for accuracy, or even to the task of keeping transportation rates at a low level, useful and difficult as these tasks may frequently be. A much broader approach is necessary.

The Complicated Market for Transportation

There are some interesting characteristics of the area in which the traffic manager works which must be appreciated if the function is to be fully implemented. Speaking generally, but with particular reference to North American conditions, the transportation market is one of the most competitive and complicated. Rates are largely determined by the competition of markets, carriers, geographic areas, industries and products. The inter-action of these competitive forces is frequently intricate. If these were the only forces to be considered, the work of the buyer of transportation would be difficult enough. However, the physical and cost characteristics of the carriers also affect the pricing of transportation services. The railway, with its relatively high fixed costs and low out-of-pocket costs, will be inclined to approach rates from a different viewpoint than a trucker whose labour costs are in relatively direct ratio to the volume carried. Boats and airplanes also have cost characteristics, and physical limitations that make them desire one class of traffic more than some other, and therefore influence their approach to prices.

In transportation, moreover, the amount of transportation cost which may be added to the production and other costs of the product shipped, without thereby exceeding the amount for which the product may ultimately be sold, is important, as unless the transportation rate is kept kept below this point there will be no movement of the goods in question. Some products of small value at destination can sustain only low feight rates no matter how far they may be carried. Other articles,

usually of high destination value, can support a high transportation charge and yet suffer no diminution of movement.

Transportation costs and prices are also of course influenced by the distance goods are to be moved, the difficulties encountered in the move, and the types of equipment necessary. Added to these cost and competitive elements, to be found in some lesser degree in almost all price determination, there are whole sets of social and political forces that make the pricing of transportation still more complicated and which influence the provision of facilities. Transportation is the circulatory system of the nation's commerce. It is a matter of intense national interest that transportation facilities be available whenever required, and that they be accessible to all parts of the political body at costs which will not restrict the legitimate development of all areas, peoples or industries. At the same time revenues of carriers must be sufficient to ensure that they can remain in business. As in some circumstances intense competition may destroy or weaken the competitors, there is an aspect of national policy which restricts entrance into some transportation fields, and asserts a measure of control over rates or prices, service and financial responsibility. Such restrictions imply a certain amount of monopoly, as without them control would be practically impossible.

Laws Limiting Monopolies and Rates

A business monopoly created by the state almost always involves some amount of state price control for the protection of its citizens. On this continent, as a result, a great many transportation rates are in fact laws as well as prices. They are required to be published in accordance with statutory rules and interpreted in the light of legal principles. There is considerable legislation and a body of common laws relating to the services and rates of transportation agencies. Much of it applies to shippers and receivers of freight, as well as carriers.

There are independent government agencies with the powers of courts, responsible for the economic maintenance of transportation facilities, and the protection of the rights of individuals and areas in their relations with the transportation agencies, whose rulings are in effect court-made law. The Board of Transport Commissioners and the Quebec Transport Board in Canada, and the Interstate Commerce Commission in the United States, are examples of this type of control. It is to the manipulation of this complicated set of conditions, for the advantage of the concern, that the skills of the traffic manager are directed.

Education Needed in Theory and Practice

It will be recognized that the technical ability of the traffic manager

rests on competence in five basic fields of knowledge:

(a) the technique of the carriers
(b) the techniques of the industry in which he is employed
(c) geography
(d) economics
(e) law, principally the law of contract, rules of legal interpretation, and the legislation of carrier regulation.

Of these, three are subjects usually associated with relatively advanced formal education, and two with the kind of knowledge acquired by experience in the business world. Fortunately, the technical fields are those upon which there has been much written in recent years. Nevertheless, the typical traffic manager has had actual working experience with both carriers and industry. The three comparatively academic fields are all available to anyone working in the larger cities by means of university extension or correspondence courses, or through library facilities. A university degree is, of course, an advantage to anyone working in this field, but is not a necessity. What is required is a comparatively high degree of intelligence and intellectual ambition. A good traffic manager is almost invariably a student, regardless of age or experience.

How the Traffic Function is Performed

Having indicated the importance of the traffic function and the complexity of its subject matter, we may now turn to the more immediate question of how the function is to be performed in a typical business. The first step, as has been mentioned, is to make one person of managerial stature and status responsible for all business relationships with transportation companies, and to be certain that whoever is so designated has adequate knowledge and experience along the lines suggested above, to cope with problems of the magnitude likely to be encountered. As previously noted, the importance of the decisions to be made vary greatly from concern to concern, and no simple rule may be set to indicate the relative importance of the function in the management pattern. It may be suggested, however, that it is seldom overemphasized.

It goes without saying that authority concomitant with responsibility is a necessity. Almost obvious is that responsibility for certain areas of contact with carriers may be shared with other sections of the business. Firms which by their nature sell relatively small quantities of their products to carriers may well relieve their traffic manager of any responsibility for such sales as do occur, as in fact he may weaken his bargaining position by openly assuming a sales role. On the other hand, if sales to carriers are potentially important, they may be left completely within the scope of the traffic function. The writer has known several

traffic managers who developed great skill in the production of sales to carriers without unnecessarily sacrificing their advantages as purchasers of transportation. Certain accounting, engineering and other spheres of contact may or may not come fully within the scope of traffic, but nevertheless the traffic manager should always be the person to whom a carrier turns without question when in doubt, or when experiencing difficulty with any other section of the firm's organization.

The first major action of a newly appointed traffic manager would probably be to establish and demonstrate his authority to route the inbound and outbound movement of goods whenever the firm had the legal or customary right to do so, and evaluate the amount and nature of the tonnage in terms of carrier interest. Surprisingly few firms recognize the advantages of routing shipments. Nevertheless, it is broadly true that a traffic manager will achieve most of his goals by (a) demanding legal rights, (b) convincing the carriers that his proposals have merit in equity or advantage to the carriers, or (c) bargaining transportation business for desirable conditions and rates. It is probable that these methods are listed in the reverse order of effectiveness. Certainly without the power to route and the means of doing so, the traffic manager has no bargaining power, a severe disability.

The Importance of Routing

Some firms, because of their terms of purchase and sale, do have little bargaining power, and must therefore rely on salesmanship and legal argument to obtain their desires. Much may be accomplished by their skilled use, but both are much more effectively used in combination with bargaining strength. Incidentally, having the power to route, without using it, is of little value. Someone else always exercises the routing authority, and carriers are always quick to recognize that person. The traffic man therefore quickly sets up clerical procedures such as routing guides, policies and reports to ensure that the carriers acceptable to him, because of rate and service considerations, do actually receive the firm's transportation business so long as they continue to satisfy.

With the routing power established, or its lack recognized, the traffic manager, based on his knowledge of the five basic fields of knowledge outlined in the foregoing, proceeds by recourse to salesmanship, legal argument and bargaining, to establish or maintain in use and effect the carrier facilities, rates and services which permit the firm to do business most effectively. This is a very brief statement of a never-ending process, as in a dynamic industry the requirements will change probably before the current adjustments are completed.

Routing is not performed only to implement bargaining power. The charges that accrue against any shipment depend in some measure on

the route specified by the shipper. Once the shipment has moved, attempts to reduce the charges are limited in scope and effectiveness. Some traffic departments therefore direct a major part of their routine efforts to routing, and to checking on its results. Because special equipment or services are by definition unavailable except by prior arrangement, the traffic manager, early in his progress, arranges to obtain prior notice of shipments of unusual urgency, size or content. Unless this is done, control of transportation will not be fully effective.

Need for Cooperation and Information

It may be noted that the efforts of the individual traffic manager will frequently be much more effective if he works with others having the same interests, general or particular, as his problems may indicate. Therefore he is always seeking out others who are prepared to join in a common effort to obtain some change in rules or regulations, thereby increasing their bargaining strength and the range of experience available. Judicious work for and through trade associations, boards of trade and other interest groups can be most useful.

A traffic manager will lose no time in setting up a ready service of information on rates and services of the various carriers for the materials which the firm ships or receives, and for others related in any way, such as competitively, which might make comparison profitable. This usually takes the form of tariff files and rate books, the size and range of the files depending upon the type of business. No traffic department carries all tariffs, as they would be too large and cumbersome to maintain in an orderly and current condition. Tariffs and other references that are not up to date are a hindrance rather than a help. Some firms may get along very well with a rate book made up for them by a rate book publishing firm, of which there are a few in Canada, whereas others need files of actual tariffs that require the full time effort of one or more skilled clerks just to keep them in order and to draw attention to changes that may be of interest, as they are received. The tariff file is used in three principal ways:

(a) as a source of information for other sections of the business

(b) comparative rate information for use in dealing with carriers

(c) authority in the checking of freight bills.

The traffic manager recognizes that many of the actions which determine that transportation is used to best advantage are taken by others than himself or his department. The tariff file is the source of the information which is provided to other sections to guide them in their decisions. Rate guides showing the information of immediate interest are frequently given to sales, buying, accounting departments

and others who may be in a position to profit by their use. For example, the buyer of raw materials, where alternative sources are available, must be able to compare offers from vendors in terms of laid down cost at point of use, and frequently does not have time to consult traffic before making a decision. Many similar examples will occur to the reader.

The traffic manager uses the rate files to determine the legal rate on a particular shipment at date of movement, and to substantiate his opinions on the correct rate by reference to the tariffs. He also uses them to learn what charges are assessed on comparable products, and to take steps to see that the commodities in which he is interested are charged rates reasonably related to others, whether or not they are directly competitive. A by-product of this type of investigation is information as to sources of materials and markets, as special rates are not usually published where goods do not move. Careful inspection of tariffs frequently turn up information on competitors' activities.

Checking Freight Bills, Damage and Losses

The third use of tariffs, the checking of freight bills for accuracy of charges, is the one most commonly associated with the popular view of traffic management, and in fact is the main task of some so-called traffic departments. It is, of course, important to know that invoices for transportation are in agreement with the carriers' price lists, and that charges are not being assessed more than once, but it is also important not to spend more time obtaining this assurance than the results justify. A traffic department in some companies, particularly those dealing in a large volume of small shipments, might be most effective without checking a single freight bill. The small differences likely to occur might not justify the time required to check them. Alternately, a firm dealing in commodities moving in large quantities over complicated and expensive routes might be wise to have their freight accounts checked several times, and then send them to an outside specialist for further audit. The important point is not to confuse the checking of freight bills with the science of traffic management.

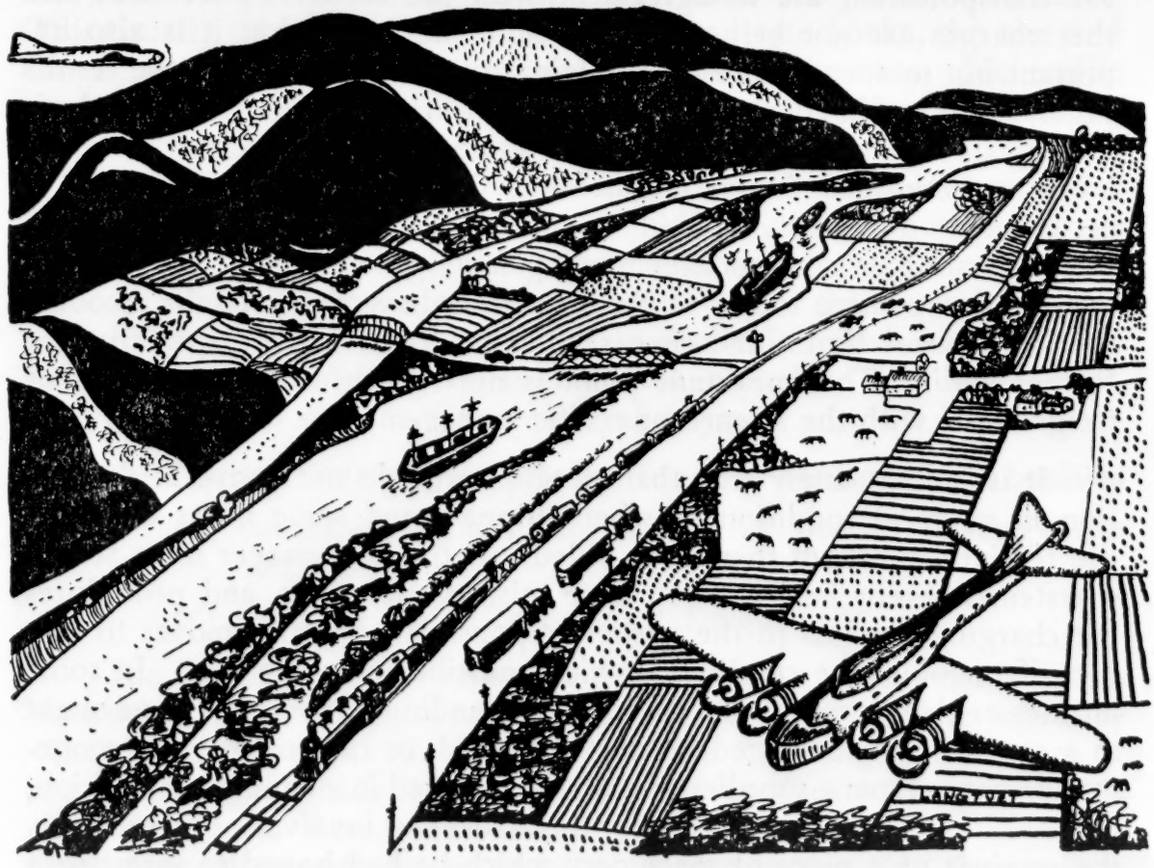
It is unfortunately true that all shipments do not arrive at destination in as good condition as when shipped, and some never do reach the receiver to whom they were billed. A traffic manager must set up a system whereby he learns of these mishaps promptly, and procedures for charging the loss to the parties responsible. He also moves to correct, if possible, the conditions which contributed to the loss. In some businesses claim prevention can be of outstanding importance, as payment to a customer for damaged product delivered, or the receiving of monetary damages from a supplier of material received in a damaged condition, may not in any way compensate for the actual loss involved. For example, the receiver of a piece of machinery which he had hoped to insert in a

production line will not be happy to receive a damaged machine and the cost of putting it back in shape, if his entire production plans are set back months as a result. He would much prefer to receive machinery properly packed and transported by a carrier taking proper care of the shipment. Claim prevention and claim settlement can both be of importance.

Good Managers Manage More

Having developed these basic activities, the nature of the business and the competence of the traffic manager will indicate whether he should extend his operations to include customs procedures, private car operations, company vehicle control, warehouse operation and passenger accommodations. The ramifications of basic traffic work are many, but well beyond the scope of a general article of restricted length.

To those seeking an interesting business vocation, the traffic function may appear circumscribed, until it is realized that full development of the function leads to attention holding problems in almost every aspect of business management. Competent application to the problems of traffic may lead to such interesting subjects as plant and warehouse locations, development of supply sources and market areas, office efficiency, packaging, material handling, carrier operation, evaluation of capital investment, labour relations, accounting, and countless others.



Like almost any other field of business endeavour it leads where the practitioner directs.

The foregoing paragraphs do no more than indicate the existence of the transportation cost element in business, point in a general way to the necessity for its control, and suggest an approach to the problem. No aspect has been developed beyond generalities, and many matters of importance have been ignored or simply touched upon because even the broadest approach was beyond the restrictions of the allotted space. If, as a result, some business managers take a further look at their organization, in terms of its suitability for dealing with its transportation problems, the writer will be satisfied.

Looking Ahead

Articles requested for our spring issue include:

Computer Cost Cutting in Big Business

Discount Houses

The Role of the Company Doctor

Trade Fairs—Pros and Cons

Statistical Quality Control as a Management Philosophy

I.L.O.—A Broad Field and a Broad Plan

V. C. Phelan

FREEDOM of employers and works to form and operate their own associations; the organization of handicraft industries in underdeveloped countries; techniques and standards of accident prevention in industries; labour-management relations; vocational training of workers in agriculture; rehabilitation of handicapped persons—within any one country these terms suggest a real variety of problems, an endless succession of barriers to be overcome. But when the effort is to devise solutions acceptable in several countries, some idea of ILO's task will be realized, even though the list just given is by no means complete.

The International Labour Organization, more often called the ILO for convenience, is one of those Specialized Agencies associated with the United Nations. Its activities are closely co-ordinated with the various departments of United Nations, and with the other Specialized Agencies which operate internationally in regard to agricultural matters, to the health of populations, in the field of culture and basic education, in civil aviation, or in other aspects of life and human activity.

But while ILO operates in close co-operation with these other institutions, it has its own particular responsibilities, and in regard to those responsibilies it is autonomous, drawing its membership directly from the seventy-seven governments which constitute it.

Its senior direction is a general conference, usually held each year, which is open to national delegations selected by each of the Member-States. The most recent Conference, held at Geneva in Switzerland in June, 1956, actually had representation from well over sixty Members, with a total attendance of delegates, advisers and observers of about eight hundred persons.

An Early Idea

The idea of an international effort to regulate benevolently the conditions of labour, developed in some minds fairly soon after the introduction of the factory system in Europe. Robert Owen, a Welsh textile manufacturer, presented such an idea to a peace Conference at Aix-la-Chappelle as early as 1818. Later in the 1800's the idea received support in several quarters. Some Governments became interested, notably those of Germany and Switzerland. Other employers, including

LeGrand of France, sought to promote the idea. An unofficial association to promote the cause of uniform standards for labour legislation received some support. The trade union movement, early in its development, after forming international affiliations, strongly favoured international action in regard to social justice.

But it was not until in 1919 the statemen of the victorious nations met at Paris at the close of World War I that practical measures were taken by leading Governments towards proceeding with the formation of an international agency, in which Governments themselves would be the leading participants, for the purpose of focusing world opinion on labour problems, and of seeking solutions which might be generally acceptable and actually put into force. The time was opportune. During the 1914-18 War the thinking and importance of industrial workers had been accorded consideration never previously granted. Trade and other matters, even populations, dislocated by the War had to be rehabilitated. Working and living standards in backward countries, many of which were then coming into contact with industrialization for the first time encountered a fervour for reform which demanded a new consideration of the plight of those less fortunate in the economic scheme of things.

These considerations led to the national leaders of the West writing into the Treaty of Versailles in 1919 the Constitution for an International Labour Organization. At the same time, they created the League of Nations in an endeavour to promote peace through a world political organization, and while the ILO was to have freedom of action within the area of human endeavour assigned to it, for administrative purposes it was to be related closely to the League.

The views of the founders on the necessity for international organization to promote the improvement of the living and working standards of the masses in all countries were set out in the Treaty as a Preamble to the Constitution given the ILO. After reciting that there was urgently required an improvement in certain labour conditions which were then involving injustice and privation, the statesmen continued writing in these words:

> The High Contracting Parties, moved by sentiments of justice and humanity as well as by the desire to secure the permanent peace of the world, and with a view to attaining the objectives set forth in this Preamble, agree to the following Constitution of the International Labour Organization:

Thus with the support of the leading nations of the day, with high ideals and cogent practical considerations as its foundation, the International Labour Organization was launched over thirty-seven years ago.

It is important to observe that membership in the Organization at its inception and in the years since, has not at any time involved any surrender of national sovereignty on the part of any Member-Government. Governments participate, in concert they formulate the policies of the ILO, in certain circumstances they undertake individually to put those policies into operation where feasible, but the follow-up by each State in regard to ILO action remains voluntary on the part of each participating country. This principle is of great importance, for it means that the Organization, to meet its objectives, must work in co-operation with member countries, and that ILO regulations must commend themselves to national authorities through their intrinsic worth, that their adoption depends to a large degree on a national desire to meet sound international standards in the formulation of domestic regulations or procedures.

Survival—and New Ties

By the time World War II opened in 1939, the League of Nations, the first 20th century effort at resolving international political differences through a generally accepted agency among the nations, had all but formally ceased to exist. Other enterprises of the League, several of which had proven themselves worthy of confidence, had either terminated or become stalled. The single exception was the International Labour Organization: it alone of the League's connections continued to carry through on its mission during the Second War and into the new era which broke with the year 1945.

ILO had had to adjust to the exigencies of a great conflict, but this it did successfully. Its operations had to be curtailed because of political and financial considerations; its Conferences could not always be convened; its technical staff suffered reduction in numbers. But in spite of these handicaps the Organization's functions continued on a basis aimed at being helpful to its Member countries during the War, and commencing with the revival of the Conference at Philadelphia in 1944, it sought to place itself in a position to be helpful in the vast social reconstruction bound to follow the return of peacetime conditions.

In 1946 the ILO entered into an agreement with the United Nations, then only months old. The effect of the agreement was to establish mutual relations between the two Organizations on a complementary basis. Spelled out this meant that the ILO would be the arm of the United Nations family to promote beneficial activity internationally in regard to labour problems and many aspects of social matters. In fact, the International Labour Organization fitted perfectly into the new development of intergovernmental agencies then being formed in various fields of human endeavour to foster improvements through international action. Actually, ILO brought into the United Nations group more

than twenty-five years of experience and understanding of methods and attitudes necessary in approaching the task of stimulating human betterment through concerted development and endorsation of plans and programs among nations.

In speaking of the survival of the ILO during this trying period, something may be said of Canada's connection with that episode in the life of the ILO. In June of 1940, with the German armies threatening to surround Switzerland, it was decided to move the seat of the Organization away from Geneva, in order that activities might continue, and to give what appeared to be the one chance of continuance to the institution. Recognizing the dangers of the situation, the Government of Canada issued an invitation to the Organization to move its Headquarters to Canada. A simultaneous invitation was put forward by McGill University, which offered working space on its campus if ILO would come to this country.

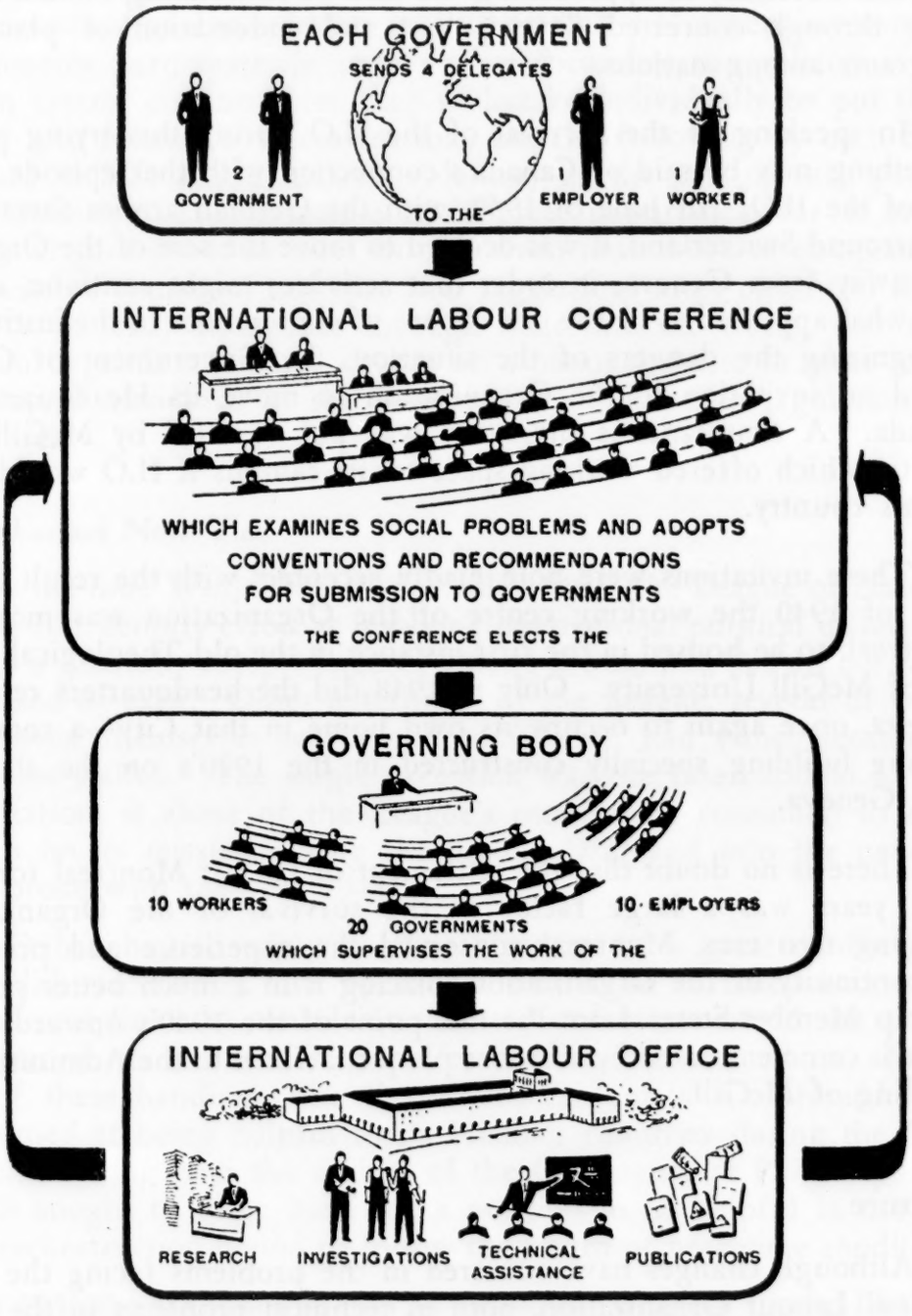
These invitations were both gladly accepted, with the result that in June of 1940 the working centre of the Organization was moved to Montreal, to be housed in the first instance in the old Theological Building of McGill University. Only in 1948 did the headquarters return to Geneva, once again to occupy its own home in that City—a somewhat striking building specially constructed in the 1920's on the shore of Lake Geneva.

There is no doubt that the settlement of ILO at Montreal for these eight years was a large factor in the survival of the Organization. Bridging two eras, Montreal conserved the experience and preserved the continuity of the Organization, placing it in a much better position to help Member-States from the mid-point of the 1940's onward. This phase is commemorated by a bronze plaque, affixed to the Administration Building of McGill.

Structure

Although changes have occurred in the problems facing the International Labour Organization, both in technical problems in the vastly expanded field of labour and social matters and in the more restricted field of internal operations, the central features of the institution's structure have not altered materially since they were first given it in 1919 by the Treaty of Versailles. Briefly stated, the Organization consists of the Conference, to which all Member-States may send national delegations; the Governing Body, an international executive made up of forty members; and the International Labour Office, which is the Secretariat or civil service of the Organization.

STRUCTURE OF THE ILO



The Conference is the authoritative council, and under the Constitution it must be convened at least once each year. It has responsibility for fixing policies of the Organization in regard to major technical matters—policies on labour and certain social affairs, projected programs, and the like. It votes the budget, and decides the general lines activities shall follow.

The Governing Body functions as an executive council, meeting four times a year. It sees to arrangements to carry out the policies

prescribed by the Conference. It exercises general direction and supervision over the work of the Secretariat. It authorizes necessary conferences, committees, meetings of specialists, and the other moves required to give accent to Conference decisions. It drafts the budget and prepares the agenda for various meetings.

The International Labour Office is the secretariat of the Organization. It does the preparatory work for the Sessions of the Conference, meetings of the Governing Body and all other meetings. It carries out the application of general policies, as devised by the Conference or the Governing Body. It studies, performs research, develops statistical and other reports, and seeks to give practical significance to general policies. The Office, as it is usually called, is as mentioned located at Geneva. It is presided over by a Director-General, presently Mr. David A. Morse, former Deputy Secretary of Labour of the United States. The Director-General is supported by a technical and administrative staff of about 800 at headquarters, by branch offices in ten leading countries, by four field offices, and correspondents in several other capitals.

Conferences are usually convened at Geneva, but not necessarily so. Other meetings also usually meet in Geneva, although a number do meet in other world centres.

A Tripartite Institution

One structural feature of the Organization is unique for such an institution and deserves special mention. Already reference has been made to the *inter-governmental* character of the ILO. The member is the Member-State, represented of course by a Government. Only Governments of self-governing territories may take membership. The budget is contributed by an allocation among all Member-States. But the Constitution of the ILO from its very beginnings conferred on the Organization a "tripartite" character, a term explained in this way: although the relations of this international agency are with Governments, the Constitution provides that in its workings Governments shall give specified representation to organized employers and organized workers. For instance, the Constitution stipulates that the national delegation to the general Conference will consist of four voting delegates, two of who shall represent the Government, one of whom shall be named after consultation with the most representative group of organized employers to represent Employers, and one of who shall be similarly selected to represent organized Workers. Each of the delegates may be accompanied by Technical Advisers, selected in a manner similar to that applied to voting delegates.

The Governing Body is also tripartite. It consists of forty members, with half the membership, or twenty members, representing Govern-

ments; ten members representing Employers and a like number representing organized Workers: it is provided that the Employer and Worker panels shall be elected by the relevant groups at the general Conference.

The same principle of employer and worker participation is generally followed in regard to Committees. It is only in a matter regarded as essentially the prerogative of Governments, such as finance, or in Expert Committees on technical topics, that the principle of three-party representation is waived.

Canada, from the first Conference, has always sent Conference delegates made up on this three way basis. In addition to Government delegates, an Employer delegate has always been selected in consultation with the Canadian Manufacturers' Association, and the nominee of that body has been a voting delegate. Other Canadian employer groups have also joined in ILO affairs through the Government inviting them to nominate Employer Advisers: for example, in recent years the Canadian Chamber of Commerce, the Canadian Construction Association and the Railway Association of Canada have all named advisers to go as members of the Canadian delegation. Similarly a Workers' delegate has been selected on the nomination of the Canadian Labour Congress (previously on nomination of the Trades and Labour Congress of Canada) while other leading groups of organized workers have been given the opportunity of naming Worker Advisers to go on the delegation, in recognition of their interest in the problems before the Conference. At the moment two Canadians hold Deputy Memberships on the Governing Body—Mr. Harry I. Taylor, O.B.E., of Toronto, the Employer Delegate to the Conference for several years, and Mr. Claude Jodoin, President of the Canadian Labour Congress, who has represented Canada's organized workers at several Conferences.

Tripartite representation was decided upon originally in consideration of the fact that the work of the organization would touch very closely the rights, interests and aspirations of the two partners to industry—employers and workers. If the work of the organization were to succeed, if aspirations were to be realized over the years, it would be only because Governments in the first instance, and management and labour in the second, were impressed with the utility of the effort, and with the feasibility of practical application of decisions taken. Apparently the founders felt that these considerations indicated the aptness of direct representation for organized employers and workers in relation to international efforts in the field in which these segments of the population were already immersed at home. Although all points of view represented at the Conference do not always meet in single focus, a large area of agreement is not uncommon, and in any event there seems to be almost unanimous opinion that the tripartite nature of the deliberations of the Organization remains of prime importance.

The Task

The task of the Organization was set forth in the Preamble to the original Constitution in quite vivid terms. Before enumerating the labour and social problems which indicated the need for such an agency, the Constitution was made to read:

> And whereas conditions of labour exist involving such injustice, hardship and privation to large numbers of people as to produce unrest so great that the peace and harmony of the world are imperilled, and an improvement of those conditions is urgently required.

Then the problems were given specific mention and the Preamble continued:

> Whereas also the failure of any nation to adopt humane conditions of labour is an obstacle in the way of other nations which desire to improve the conditions in their own countries.

There then is the core of the task set before the ILO—for the reasons recited, to seek to lead Member-States to effect social betterments within their frontiers.

Specifically the problems mentioned in this Preamble included hours of work; regulation of labour supply; unemployment; living wages; protection of workers against sickness, disease and industrial accident; protection of children, young persons and women; old age and injury; protection of migrant workers; equal pay for equal work; freedom of employers and workers to organize and operate their own associations; vocational and technical education; and "other measures". Even now, thirty-seven years later, the list still represents in large part the aspirations of workers in all lands, including as it does most measures which must be taken to provide an increasingly higher level of living standards anywhere.

That the task would be long and arduous was recognized by the founders when they provided that "a permanent organization" was to be established.

Procedures

Earlier it was pointed out that national membership in the ILO involves no surrender of soveignty on the part of the Member-State, that the Organization enjoys no mandatory powers for the enforcement of its decisions and programs. The international agency must operate without the aid of executive authority—and in fact at no time has there been any serious suggestion that this principle should be altered. How then, one may ask, is it proposed that the organization shall accomplish

its mission? What means rest at its disposal for the improvement of national conditions from country to country?

The statesmen when charting the course of the International Labour Organization apparently held to the belief that nations react in much the same way as do individuals, that value attaches to public discussion, the development of public opinion, that the emulation of one people by another is a potent force, and that the spark of progress, the constant striving for a better life, will do much if kept alive. In fact these considerations, most people will agree, do have a real influence on the practical affairs of every day. They were the tools given the Organization to work with, and so they still remain.

The Sessions of the International Labour Conference provide an annual forum for the discussion and presentation to the world of labour and social problems of magnitude, of problems pressing in one or more geographical areas at the moment. Difficulties and successes in various fields are recounted for the benefit of other nations. There has, too, always been a feeling that the periodic bringing together of leaders of management and unions, with representatives of Government conversant with the labour field also present, a gathering from many nations and many lines of activity, of itself effects a useful purpose, and exercises a broadening influence on national thinking in regard to labour matters.

The Conference must also make decisions on a number of matters. These decisions may take one of three forms: there is the Convention, a type of draft treaty which must be adopted on a two-thirds majority vote, and may be adopted only after discussion at two Conferences. This procedure avoids hasty decisions, and ensures rather heavy support for new measures. Once a Convention has been approved it is then open to Member-States to ratify formally and to put its provisions into effect through national law. It is held that some moral obligation rests on Member-States who have supported adoption of a Convention to ratify later, unless there be particular reasons for delay.

A second type of formal instrument adopted by the Conference from time to time is a Recommendation to Governments. This instrument carries less force than a Convention, but is a more serious Conference decision than a resolution. Frequently a Recommendation is to supplement a Convention: if a Convention dealt with means of abating unemployment, a Recommendation might also be adopted to spell out the administrative machinery required to give effect to the program. Or a Recommendation may be adopted on any current problem where for any reason it is felt that it would allow greater flexibility than a Convention. Recommendations are open to acceptance by Member-States, but do not call for formal ratifications as do Conventions.

A total of 104 Conventions (several of them revisions of instruments adopted in earlier years) and a total of 102 Recommendations have

been adopted by the International Labour Conference up to this time. Ratifications of one or other of the Conventions by Members now number over 1600. Each Session of the Conference studies reports submitted by Member-States on the carrying out of Conventions ratified, and on progress made toward ratification on those still unratified. The results of the study are published. The Governing Body and the secretariat call the attention of States to unratified Conventions or Recommendations not acted upon, whenever the implementation of a given measure would seem most opportune.

By way of a Resolution the Conference may call world attention to urgent problems, and suggest ways and means to Governments for their alleviation; or it may instruct the Governing Body and the secretariat on programs to be developed to aid in the solution of current critical situations.

The Governing Body and the Office act as the executive arms of the Organization. There is a follow-up to encourage nations to ratify Conventions and adopt Recommendations. Special enquiries into current problems are instituted and carried through, whether by investigation in the affected area or by the convening of a meeting of specialists to recommend a program. Governments requesting it are furnished with technical advice on labour administration or labour problems. Considerable literature to make information available to all Governments has been produced. Special studies have been made on a broad variety of current questions. Periodical publications, such as the monthly International Labour Review, the semi-monthly Industry and Labour, the quarterly Occupational Safety and Health, the Yearbook of Labour Statistics, regularly carry informative material designed to aid in the constant improvement of working and living conditions, in the smoother working of labour-management relations. New problems as they arise are given prompt consideration, and practices and procedures are recommended to assist Governments, Workers and Employers in coping with them. The Office is constantly available to confer with national authorities responsible for labour administration, and even from more advanced countries ILO receives frequent requests to furnish information or assistance.

These are the means at the disposal of the Organization in discharging its mission.

Technical Assistance

Since World War II accelerated attention has been given to the desirability from several points of view of assisting in improving the economies of less developed countries, by helping to raise their living standards through the furnishing of scientific and technical "know-how".

There have of course been several responses to assist in what is regarded in the more highly developed countries as a real need—and even the removal in some instances of a real danger to peace because of conditions inherent in an under-developed nation. The Colombo Plan for South East Asia, in which the Government of Canada is a major participant, is one answer. Some other nations have given similar direct assistance in various areas, but the more general effort has been the United Nations Technical Assistance Program, started half a dozen years ago and still being carried forward by the United Nations and the Specialized Agencies.

As one of the agencies the ILO has been a very active participant, having given a considerable measure of technical assistance in several areas. Broadly the under-developed areas for the purpose of the U.N. Program include Latin America, Africa, the Near and Middle East and South East Asia: even some countries elsewhere, though, not rated as under-developed in the ordinary sense, have also been furnished with some aid.

For the purposes of the U.N. Program special funds are contributed by the U.N. Governments, funds which are made available in part to the Specialized Agencies for their Technical Assistance work. At the present time the special funds thus available to the ILO for Technical Assistance run at something more than two and a half million dollars a year. Under the U.N. program monies are not available for capital assistance to under-developed countries, except in very minor matters—though some financial aid for capital outlays is available from other sources. U.N. Technical Assistance funds are devoted chiefly to the furnishing of the services of Experts, who proceed to the benefitting country to study, survey, recommend, or give leadership in the development of approved techniques in regard to any one of many matters. Or funds are made available to move trainees from areas being helped to advanced countries for the purpose of bringing back knowledge of techniques and developments which may be adapted and applied beneficially to the under-developed land. In all instances this help is given, of course, on the request of the Government to benefit, and in the general case with some matching financial contribution furnished by that Government.

Because of the expanse of its field of endeavour ILO has been called upon to furnish technical assistance in a number of categories. To give but an incomplete list, technical aid has been given, and is being given, in regard to labour laws and inspection; in vocational and industrial training of workers; on apprenticeship; on labour-management relations; on improving the productivity of industry; on the further development of local handicrafts; on industrial safety and health; on organizing statistics and measurements of manpower; on migration; and in regard to a number of other economic aspects with a labour interest inherent in

them. At the moment ILO has about 175 Experts working in a long list of countries.

At best Technical Assistance is not an easy field of operations. In most developed countries much more difficulty is encountered than might be expected in enlisting the services of qualified specialists who can be spared and are prepared to serve abroad for six months or a year or eighteen months to guide some remote country. When the specialist goes abroad, there are language difficulties which must be met. Then because of the interdependence of so many factors and the complications of modern life even in developed economies, the absence of parallel developments in other fields is a frequent handicap to the visiting adviser. Nevertheless as the demand from under-developed countries shows an increase, rather than a decrease, it is to be assumed that the authorities in the areas undergoing development feel that they are benefitting. It will usually be only after several years of effort that the under-developed areas will have developed the techniques and the specialists to meet their own requirements.

Some of these trainees moved by ILO for short periods have come to Canada, where they have been given full opportunity of learning the Canadian way of doing things. It has been the experience of the Organization that Governments and other institutions here are thoroughly sympathetic, and give whatever help they can to assist the trainee from abroad. Also, several Canadians have served abroad as Experts under the ILO, to give of their knowledge and experience in less fortunate lands.

It may not be entirely necessary to point out the human significance behind a mere mention of technical assistance projects. One brings the art of reading to blind persons, another tries to enrich economies by building onto age-old home industries. Elsewhere the effort must be to help numbers of workers accommodate themselves for the first time to orderly, wage earning employment. Behind all industrial development there must be a knowledge of basic skills, skills which the developed countries have taught themselves over the years, but which are still comparatively new to large numbers of prospective producers. One large project in Latin America, under ILO leadership with other U.N. agencies participating, is to bring forward a population of Andean Indians to the 20th Century from the way of life they have carried forward from a much earlier age.

Current Problems

In addition to the Technical Assistance Program, ILO is revising its work in the field of labour-management relations, studying ways and means by which it may be more helpful to Member Governments, while

at the same time bearing in mind the newness of the art of industrial relations in many areas which have not known industrialization. Accident prevention and the health of workers are constant sources of new challenges: having accomplished a good deal in this area in earlier years, there is need of constant revision as new machines, different processes, and further products are introduced into industry—atomic matters, as one instance, open up a new avenue calling for immediate attention. Automation and the guaranteed annual wage must be studied. Conditions of virtual or near slavery for workers in some countries constantly cry for ameliaration. Employment in aviation has developed problems. Social security schemes, statistical study and method, and many other procedures have to be reviewed continually to learn of the effectiveness of methods devised earlier. Problems develop, are met and solved, or they may diminish in importance, but problems there always are in this field.

The Organization is at present faced with a somewhat basic problem involving the right and freedom of workers and of employers to form their own associations, and to operate those associations without Government interference. A practical turn given this matter arises out of membership in the ILO of certain countries in which it is believed generally that employers and workers do not enjoy liberty of association. At the present time the question is under study within the Organization, of whether employer and worker delegates from countries where this liberty is curtailed, may properly claim to represent their respective group at ILO gatherings. As nations which are members of United Nations are entitled to ask and receive membership in ILO, upon compliance with the constitution, this problem has arisen: no machinery is provided for any determination of the point before membership is taken up.

The Future

The membership of the Organization is at an all time record, only because Governments have joined in larger numbers, and at present are maintaining their memberships. The information that ILO is able to produce in regard to labour and certain social matters seems very necessary nowadays, and in many cases Governments would have to secure it for themselves if it were not available from a central source. The hope for betterment held out to the masses, particularly in less developed countries, through the ILO, is a factor of some magnitude.

Many feel that a world forum on labour and social affairs is a modern necessity. In the field of technical assistance, it is only to be expected that labour affairs would receive due consideration: in any event it seems that some international agency would have to be available in this connection.

Canada has been a member of the Organization since 1919, and through its membership has taken a very active part in the work of the Organization. Canadian delegations regularly participate in the Conference, in the work of the eight industrial committees (where employers and workers are also represented) and in other meetings of interest to this country. In part present activity may be ascribed to Canada's larger role in international affairs—but in part it must be credited to the continuing conviction of the Government of Canada of the soundness of the principles for which the Organization stands, and to sympathy with the mission which it seeks to carry through. Last year the governing body of ILO honoured Canada by selecting as its chairman for the year, Mr. Arthur H. Brown, O.B.E., Deputy Minister of the Federal Department of Labour. This is just one more evidence of the close association ILO has always enjoyed with this country.

BOOK REVIEWS

SCIENCE AND ECONOMIC DEVELOPMENT: NEW PATTERNS OF LIVING

by Richard L. Meier, Wiley and The Technology Press (M.I.T.), New York, 1956. 266 pp., $6.00.

Dr. Meier, an industrial scientist, was asked by the University of California at Berkeley to establish contact with the social scientists to initiate studies on patterns for economic development which are suggested and shaped by recent advances in science and technology.

Dr. Meier shows the scientist's restraint in his lack of awe for the technological advances of our age. He also avoids the common pit-fall of the "science writer" who often sees a kind of economic and social utopia through the "wonders of science". Dr. Meier makes a clear analysis of the world's present and projected resources. He sees the unbalanced equation of resources and population as a predicament to be solved by a civilized concentration of workable strategies.

The analysis of the problem as stated by Dr. Meier divides naturally into four parts: the world needs as measured against resources, the possibility for the development of new foods and food sources, the likely development of new fuels and power sources, and the evolved patterns of living in the new technology.

The book is valuable to the student and researcher for its concentrated presentation of the world's present and projected resources. The businessman will be interested in the analyses of the most feasible proposals for development and the implications of world development on present and established economic forms and patterns. The average reader will note with interest several prospective solutions for the Neo-Malthusian problem based on science and technology.

—E. G. Pleva, Head

Geography Department, University of Western Ontario

MAKING DEMOCRACY WORK

by Francis Hankin. Public Affairs Press, Washington, D.C., 1956. 74 pp., $1.00.

This book is an attempt—indeed a valiant attempt—to do the impossible. It attempts to cover the essentials of both economics and politics. Subjects dealt with include: Our Fundamental Rights; Democracy and Dictatorship; War-Preparedness and Prevention;; Land, Capital, Labour; the State; Money and Banking; Prices; Taxes; Foreign Trade, Tariffs and Competitive Exchange Depreciation; Ownership, Management and Regulation of Business—all in seventy-four pages!

Most of the statements made are accurate enough but they are not likely to be convincing for the simple reason that such a compressed account has no room for argument or evidence on which the conclusions rest. Indeed one conclusion stated three times in the text and for which we are promised evidence in the preface—is left entirely unsupported. That conclusion is that "liberty will flourish better where governments regulate rather than own economic enterprises."

Some of the conclusions seem incredibly naive; e.g. "if employees

and customers are made happy, there is bound to be a reasonable return for the shareholders" (p. 45); "had the inflation been curbed in the middle twenties we might have avoided the 1929 slum, the debacle in Germany, the rise of Hitler and the Second World War." (p. 50)

The purpose of the author—to increase public understanding of public questions—cannot be commended too highly. If his book will stimulate readers to make a further study of the subjects he touches, it will have justified itself.

—Walter Harvey, Professor
Department of Economics, University of Western Ontario

OFFICE MANAGEMENT

by Charles B. Hicks, Ph.D., and Irene Place, Ed.D. Allyn Bacon Inc. New York. 548 pp. 1956. $8.65.

Although written primarily as a textbook, this is one of the few books published on this subject which will have general use and interest for office managers and those aspiring to be office managers. It is written in a straight-forward manner in a clear and concise style. The illustrations and charts are up-to-date and instructive. As well as a good index, a glossary of office management terms is given.

This book covers the field of Office Management with particular emphasis on planning, organizing, and controlling office work; supervision of office services, such as correspondence, communications, records, duplicating and computing; the human element and work simplification. There is a section on Automation—its applications, its personnel requirements and its implications for the office manager.

The book is divided into six parts: management and the office; planning and organization in the office, which discusses fundamental principles of organization for the office manager; control of office work; simplifying office work; the human element in the office; managing and supervising office service units. Questions are placed at the end of each chapter and at the end of each section are problems and cases for discussion.

The authors, both of whom are on the staff of the University of Michigan, have had the co-operation of many nationally known comp-

anies in the preparation of this book which undoubtedly will add to its usefulness to those in the field of office management.

—Mary H. Gillespie, Head

Department of Secretarial Science, University of Western Ontario

THE ANTI-CAPITALISTIC MENTALITY

by Ludwig von Mises. Van Nostrand, Inc., New York. 1956. 114 pp. $4.50.

According to this indefatigable fighter for unadulterated laissez-faire, "What alone can prevent the civilized nations of Western Europe, America and Australia from being enslaved by the barbarism of Moscow is open and unrestricted support of laissez-faire capitalism." In this cold war for men's minds, what alone can save the West with its 12% of world population in its combat with the 38% that submit to Communist doctrine to win over the uncommitted 50% of the world is a clear statement of what the West stands for and what are its driving forces. But far from providing such a magna charta Ludwig von Mises by his undiluted materialism in the true tradition of Ricardo and Bentham, (whose theories culminated in Karl Marx), spreads dissention within our own ranks by denouncing as fifth columnists all intellectuals, white collar workers, literati who dare to criticize the price system and its justice in distributing weath. Mises still believes that, left completely free from government controls, capitalism "handles everybody according to his contribution to the well-being of his fellow-men", and that, "to content one self with what one has already got or can easily get and to abstain apathetically from any attempts to improve one's own material conditions is not a virtue." He has apparently never heard of "Annie Get Your Gun" and Ethel Merman bringing down the house by

"Taking stock of what I have and what I haven't,
What do I find?
The things I've got will keep me satisfied.
Checking up on what I have and what I haven't
What do I find?
A healthy balance on the credit side.

Got no diamond, got no pearl,
Still I think I'm a lucky girl—
Got no mansion, got no yacht,
Still I'm happy with what I've got.
I've got the sun in the morning and the moon at night.
Sunshine gives me a lovely day,
Moonlight gives me the milky way.
Got no check books, got no banks
Still I'd like to express my thanks,
Got no silver, got no gold,
What I've got can't be bought or sold—
I've got the sun in the morning and the moon at night
And with the sun in the morning and the moon at night,
Im' all right."

To mises, everyone who is not a successful business man suffers from frustrated ambition. "What makes many feel unhappy under capitalism is the fact that capitalism grants to each the opportunity to attain the most desirable positions which, of course, can only be attained by a few. Whatever a man may have gained for himself, it is mostly a mere fraction of what his ambition has impelled him to win—Everybody is aware of his own defeat and insufficiency." Surely this picture of a Western world full of frustrations and resentments, biased intellectuals and penthouse bolsheviks is a caricature: certainly this undiluted materialism will spark no crusade in its defense, yet this is precisely what Ludwig von Mises hopes to do.

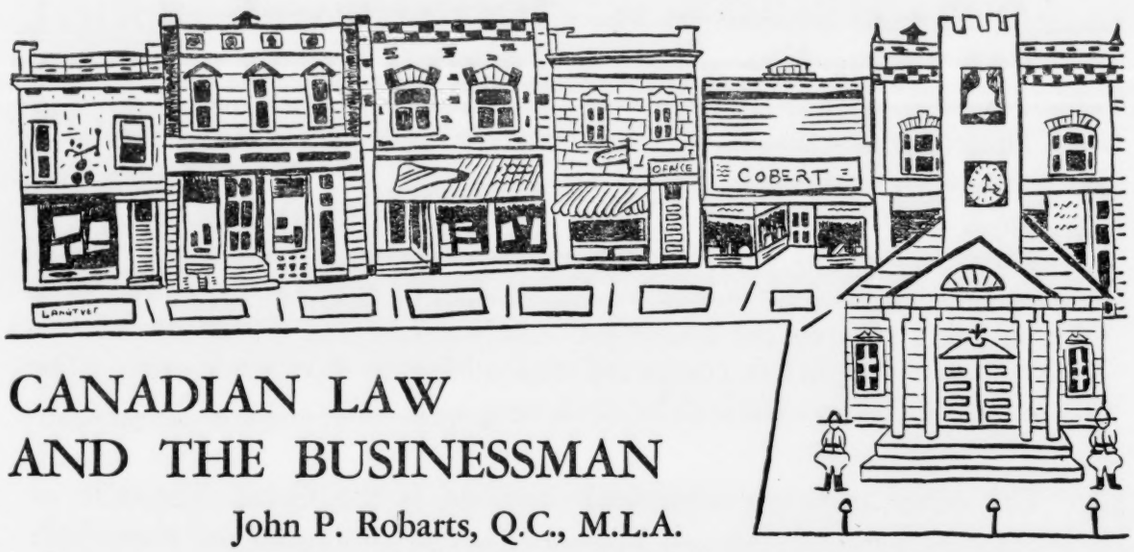
—Gordon Huson, Editor

THE DEVELOPMENT OF MARKETS FOR NEW MATERIALS

by E. Raymond Corey, Harvard Business School, Division of Research, Soldiers' Field, Boston 63, Mass. 265 pp. $4.00.

Professor Corey in his book analyses a subject that has been noticeably lacking in published material, that is, creating mass markets for new products. The study is concerned with the volume growth of three industries; aluminum, fibrous glass, and plastics.

(Continued on Page 380)



CANADIAN LAW AND THE BUSINESSMAN

John P. Robarts, Q.C., M.L.A.

IN their frantic search for new sources of revenue to meet their constantly rising costs, provincial governments are casting longing eyes at the trucking industry. An increasing interest has been shown in weight-distance taxes by the Government of Ontario as well as by the Government of British Columbia. As this type of tax is not well known in Canada, some explanation of its form, and theory, should be of interest.

In essence, a weight-distance tax is a tax imposed on a motor vehicle for the use of roads or highways, based on the weight of that vehicle and the number of miles the vehicle travels. It is generally expressed in terms of mills, rates being established for varying weight categories. This rate is then multiplied by the number of miles the vehicle travels during the taxing period, which is generally a month, or thirty days.

Reasons for Weight-Distance Taxes

This form of tax has developed for several reasons. It seems that the present system of taxing by a gasoline tax is inadequate because of a regressive factor in gasoline consumption. Thus, as vehicles become heavier, they travel farther per unit of gasoline consumed in terms of weight, and the proponents of weight-distance taxes argue that any increases in gasoline tax will fall mainly on the private automobile and the lighter vehicle.

It is argued further that the cost of the road is most fairly represented in this type of taxation, as vehicle miles determine the extent of road and street facilities, and weight governs their standard of construction.

The whole problem is highlighted further when we consider the increasing costs of highway construction. Express-ways and limited-access highways, new road and bridge design geared to increased speeds, increased vertical clearances, are all being forced on provinces by the increasing weight and size of vehicles and lead inevitably to a great increase in the cost of our road facilities.

Relative Use and Incremental Theories of Cost Allocation

There are two basic principles of highway cost allocation, one of which is employed in establishing the ton rate. The first of these is the "Incremental" theory of highway cost allocation. It is primarily an engineering approach, and is based on the generally accepted fact that the size and weight of vehicles affect the width and thicknesses of pavements as well as the size and design of bridges. Thus the cost of a basic highway system adequate for passenger cars and light trucks is determined, and then the additional cost for carrying trucks of increasing sizes and weights is computed and added to that basic cost. The increment of cost occasioned by each weight classification is thus borne by that classification.

The other principle commonly applied is the Gross Ton-mile or Relative Use Theory. In this approach tax is computed on a ton-mile basis, whether the ton-mile is produced by a one ton vehicle travelling one mile, by a half-ton vehicle travelling two miles, or by a two-ton vehicle travelling one half a mile. The assumption is that highways are facilities built for the use of all vehicles and should be paid for in accordance with the relative benefits enjoyed by each group of vehicles determined by weight and distance travelled.

High Cost of Enforcement

From a businessman's point of view, it is obvious that weight-mile taxes will fall almost entirely on the heavy freight-carrying vehicle and thus will perforce result in increased transportation costs. The motor carrier industry has been unremitting in its efforts in opposing the imposition of such taxes in the United States and in Canada. They point to the high administrative costs occasioned by the expensive weigh-scales necessary to ensure proper enforcement; the possibility of wholesale evasion by the less-than-honest carrier; the increased cost to the carrier himself in the complicated records he must keep; and the relative simplicity and the very low collection cost in a simple increase in our present gasoline taxes, should more revenue for highways be required. No doubt these objections are valid, and a great deal of study will be required before any such tax can be imposed.

It does, however, seem certain that increased revenues are necessary if we are to maintain the standard of our highway system, and in the interests of all branches of our community, that increase in revenue must be allotted in the most equitable manner consistent with practability in collection costs. No mention has been made in this article, nor is there space or time to develop the whole question of what percentage of highway costs should be borne by the user, and what percentage should fall on the community as a whole, as recompense for the great contribution highways make to our overall economic deveolpment. That is a study in itself, and is mentioned here only to indicate the difficulties present in attempting to establish fair and equitable structures.

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Book Reviews cont.

The background material for this book is derived from case histories which show that in achieving success, the companies involved have had to work in two principal ways. First, they have had to build a strong group of fabricator-customers. This has been accompanied by many different problems which they have overcome in a variety of ways. In fact a very interesting aspect of this book is that it focuses attention on the marketing problems which all three producers find common. In achieving success it is interesting to note that often best results have come by working with the smaller, newer firms.

A second phase of the broad marketing efforts has been the creating of primary demand by extensive advertising as well as the identification of the products on a strong brand basis. The latter has been accompanied by a dynamic campaign to develop new end-use customers to encourage the maintenance of a sufficiently high market to render possible the use of the manufacturer's name.

Finally, the study deals with the fact that as the market develops the producer must face the problem of finding his own role in a new industry. Should he continue to function as a materials supplier, or should he make and sell end products, or should he do both?

This is a very clear presentation of a growth phase of our postwar economy.

—F. W. P. Jones, Dean
School of Business Administration
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Letters to the Editor cont.

(Continued from Page 277)

What is required here is weighing of the several consequences of open market sales. The high national debt simply raises an additional serious matter for consideration. The sentence on the top of p. 245, which I did not write, has already caused me embarrassment as being essentially an attempt at a conspicuous show of erudition. The amendments improved the article but when an error is caused and several distortions result, I feel I must speak up or at least be given the opportunity to correct and approve the amended manuscript.

George W. Wilson
Middlebury College, Vermont

Editor—Titles and subheadings are an editor's headache. The Business Quarterly is written for practical Canadian businessmen not economic theorists.

Mr. Wilson's original opening paragraph read:

"The possibility of inflation is far more likely than that of deflation or unemployment. The high level of the propensity to consume, bolstered by abundant consumer credit and past savings as well as skillful business advertising, coupled with the very high level of business investment intentions in an economy where unemployment is at one of the lowest levels in history (i.e. under 2%), indicates the incipiency of potentially severe pressure on prices. Moreover, in the international, or Rest of the World, sector one can anticipae little decline in net foreign investment despite higher Canadian prices inasmuch as our biggest market, the United States, is likewise (and for similar reasons) inflationary oriented. Thus, the private sector appears substantially inflationary and the international sector, at the very best, is unlikely to provide an adequate counterbalance and indeed will probably be relatively neutral."

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FEDERAL RESERVE OPERATIONS IN THE MONEY AND GOVERNMENT SECURITIES MARKET—*Robert V. Roosa* — Federal Reserve Bank of New York, 108 pp.

PROCEEDINGS OF THE 7TH ANNUAL CONFERENCE — THE INSTITUTE OF PUBLIC ADMINISTRATION OF CANADA—Edited by *Philip T. Clark* — University of Toronto Press, 339 pp.

HOW TO SELL AGAINST TOUGH COMPETITION — *Harry Kuesel* — Prentice Hall, Inc., 207 pp. $4.95.

JAWAHARLAL NEHRU — *Frank Moraes* — The Macmillan Company, New York, 511 pp. $6.75.

SCIENCE AND ECONOMIC DEVELOPMENT — *Meier*—The Technology Press (MIT) 266 pp. $6.00.

CODETERMINATION IN THE GERMAN STEEL INDUSTRY—*Department of Economics and Sociology*—Princeton University, 116 pp., $3.00.

CANADIAN ECONOMIC HISTORY — *Easterbrook* & *Aitken* — The Macmillan Company of Canada Ltd., 606 pp., $6.50.

REPORTING FOREIGN OPERATIONS—*Samuel R. Hepworth*—Bureau of Business Research, University of Michigan, 211 pp., $3.50.

ECONOMIC ANALYSIS — *Edmund Whittaker*—John Wiley and Sons Inc., 460 pp., $6.50.

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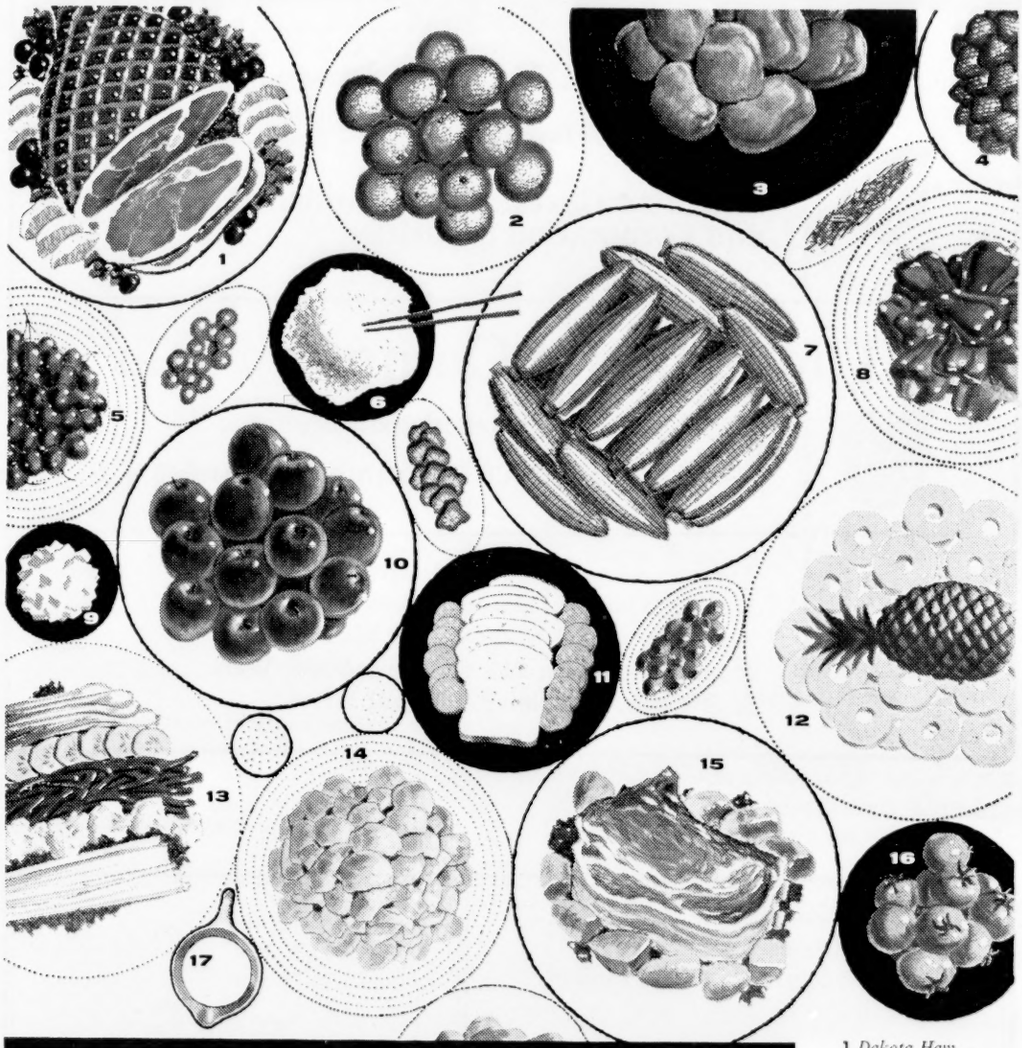

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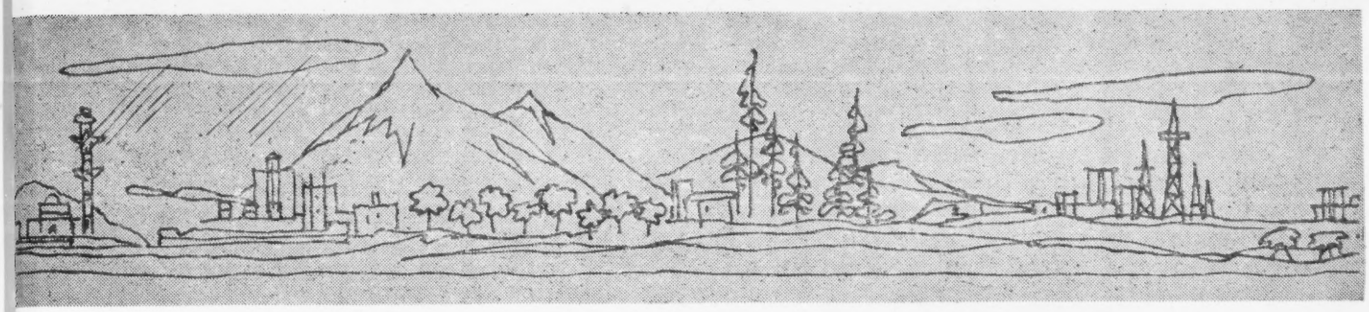

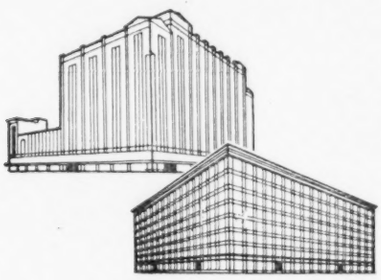

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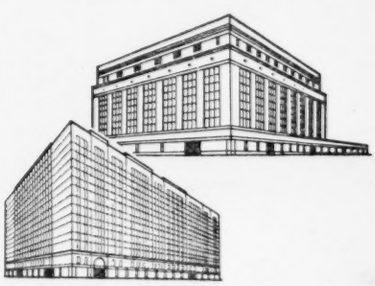

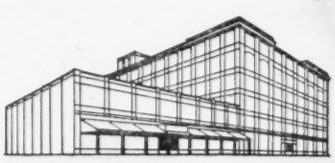

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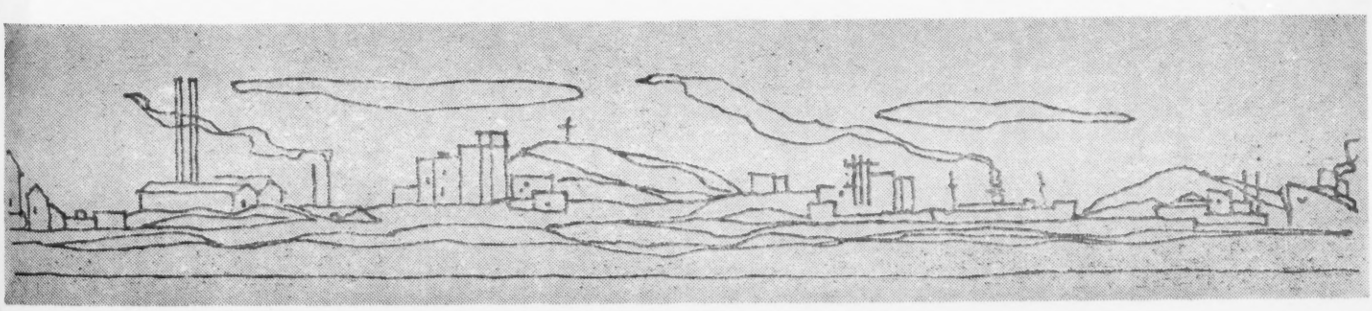

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